

ALL HANDS

in this issue
THE
POLARIS STORY



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SEPTEMBER 1960





ALL HANDS

THE BUREAU OF NAVAL PERSONNEL INFORMATION BULLETIN

SEPTEMBER 1960 Nav-Pers-O NUMBER 524

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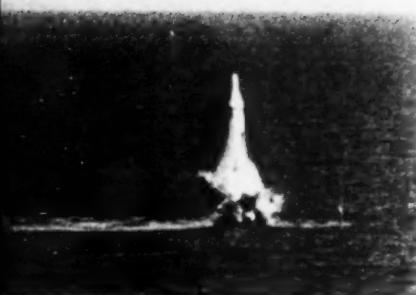
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• FRONT COVER: BELOW WITH POLARIS—The situation is tense on board USS George Washington, SSBN 598, deep in Florida waters as she readies for first submerged firing of Polaris. RADM William F. Raborn, Jr., Director of Special Projects Office and Polaris Program, and an unidentified telephone talker are seen during one of the new historic tests.

• AT LEFT: FLOATING FIELDS—Carriermen on board USS Essex (CVA 9) watch USS Saratoga (CVA 60) from hangar deck as they enter the Carrier Basin at Mayport, Fla.

• CREDITS: All photographs published in ALL HANDS are official Department of Defense photos unless otherwise designated.



POLARIS: A SUCCESS

July 20 off Cape Canaveral was the kind of day the Florida Chamber of Commerce likes to say is a year-around thing. Brilliant sunshine, cloudless sky, the Atlantic mirror-smooth, gently undulating. Just three shapes bulked in an otherwise empty stretch of ocean — the experimental test ship *uss Observation Island* (EAG 154), the submarine rescue vessel *Kittiwake* (ASR 13), and the destroyer *Gearing* (DD 710).

Suddenly, some 2000 yards off Observation Island's beam, a plume of water geysered, and a slim-nosed shape slammed up out of the depths. It looked for all the world like some giant bowling pin, slightly out of its

element. It wasn't though.

Just above the surface, it hung suspended for an instant, water dripping from its frame. Then its blunt rear end exploded into a sheet of flame, and the blast from rocket motors turned a fair-sized circle of the ocean into a hard-as-concrete launching pad.

A few fleeting seconds, and some 11 miles straight up later, the big bird's first stage, its initial thrust job accomplished and its fuel spent, peeled away to spiral slowly downward into the sea. A wind-blown curlicue of smoke marked the trail upward as the second stage ignited.

Two minutes more and the second

stage dropped away. Now only the payload remained in flight. All guidance work had taken place during the flight's powered phase. The rest of the way, the payload would follow a ballistic path to its target.

Meanwhile, back at the launching site, the blue-green waters of the Atlantic closed once more over the hole which had been violently torn in their midst. Hardly a ripple disturbed the calm. Only a "slick" of perfectly smooth water marked the spot from whence the U.S. Navy's — and the world's — first Fleet Ballistic Missile submarine had fired a shot literally heard 'round the world. But the SSB(N) was no longer there. It had moved on.

DOWN BELOW—Crew members and RADM Raborn relax after Polaris firing.



THE JULY 20TH Polaris test shot, fired by *uss George Washington*, SSB(N) 598, was the first ever launched from a submerged submarine. CDR James B. Osborn, USN, *George Washington*'s CO, summed it up neatly when he messaged the President, the Chief of Naval Operations, and others:

"POLARIS—FROM OUT OF THE DEEP TO TARGET. PERFECT."

From its launching point off Cape Canaveral the re-entry body, in slightly less than 15 minutes, hurtled more than 1000 nautical miles down the Atlantic test range, reaching a height of some 250 miles, and speeds in excess of 10,000 miles per hour. This history-making shot hit its target area with what the Navy termed "remarkable" accuracy.

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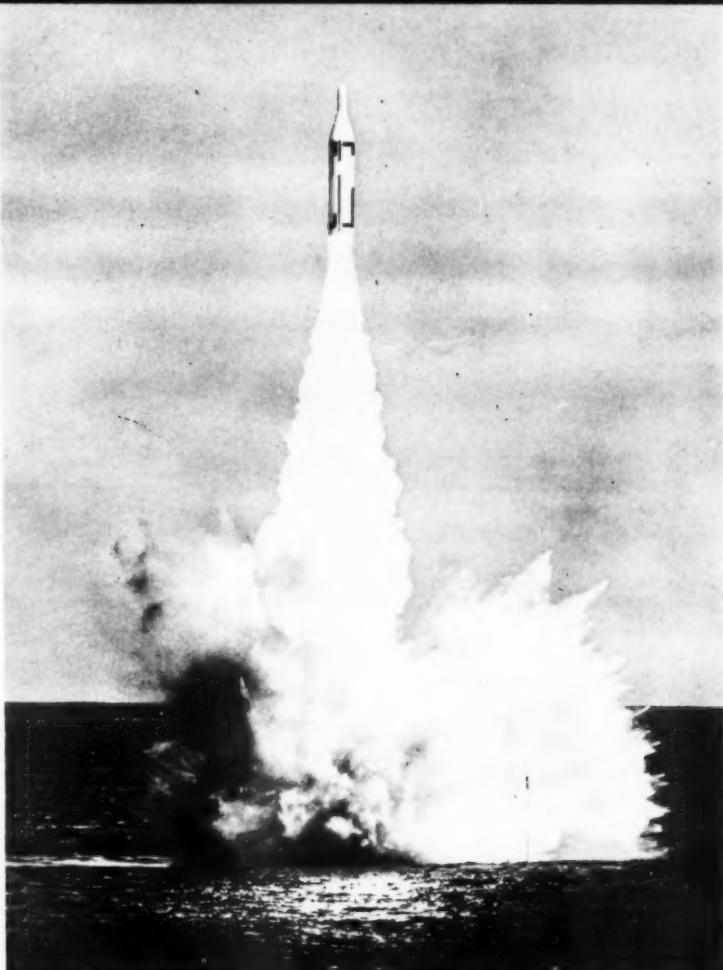
MISS STORY

(three times normal complement) jammed aboard *George Washington* when a charge of compressed gas propelled the history-making test missile from its launching tube and up through the water, was the Director of the Special Projects Office, the man known as the "father" of *Polaris*, Rear Admiral William F. (Red) Raborn, Jr., USN. In characteristically salty speech the Texas-born aviator, who has lived, breathed, eaten and slept *Polaris* since the concept was born less than four years ago, told newsmen: "There was a hell of a lot of tension, a lot of hopes, ambitions and prayers riding with that missile.

"There is now no question that we will be able to put *Polaris* on station this fall. The sooner we get an adequate number of missile submarines the better."

ADM Raborn might have added, but didn't, that it would be easy now for most people to get all wrapped up in the hoopla surrounding the successful firing, and in the new concept of warfare the FBM represents, and begin taking *Polaris* for granted. For a small, dedicated group of naval officers and civilian technicians attached to the Special Projects Office, and for the many hundreds of commercial contractors and sub-contractors, working on this project, this can never happen.

The past three and a half years will have to be ones they can never forget — for in that short span of time they have conceived, designed, built, tested and perfected an entirely revolutionary weapons system.



IT WAS ON 8 Dec 1956 that the Secretary of Defense authorized the Navy to proceed with development of *Polaris*. Actually, the story begins just a little earlier — in September 1955 — when the President approved a decision to develop a 1500-mile ballistic missile with a nuclear warhead. Both land and sea basing were to be considered.

Two months later SecDef directed the Army and Navy to get started on an IRBM program. They were told to come up with a missile which could be fired from a ship, and which would also provide a land-based alternate to the Air Force IRBM system.

Joint Army-Navy work lasted about a year. Cooperation between the two services was great, and much was accomplished which would be useful later. From the first, however, the Navy felt that the Army's big, liquid-fueled *Jupiter* missile wasn't the answer for them.

In the first place the Navy was

already envisioning a missile which could be fired from a *submerged* submarine, which meant that the missile would have to be much smaller. In addition, logistics, handling and stowage problems peculiar to shipboard, and especially submarine operations, demanded a solid fuel propellant rather than liquid fuels.

Once SecDef authorized the Navy to get out of the liquid fuel *Jupiter* program, and to strike out on its own, SecNav formed a Navy Ballistics Missile Committee to steer the project, and assigned it "Brickbat O-1" priority. There was, and is, no higher in the navy. The Special Projects Office, previously formed within the Bureau of Ordnance to work on the seagoing application of *Jupiter*, now was given responsibility for development of the entire FBM system, including the *Polaris* missile.

SPECIAL PROJECTS knew what it wanted — a solid-fueled, two-

stage ballistic missile with sufficient range to reach worthwhile military targets from available water approaches, and with a sufficiently potent warhead to destroy those targets upon delivery. And yet, those missiles had to be small enough so that many of them could be stacked in vertical launching tubes inside a nuclear submarine, without making the submarine so large that speed, maneuverability and concealment advantages would be sacrificed.

As for the submarine, it too would need many new and revolutionary features. A way would have to be found to eject the missile from its launching tube, and to propel it through varied depths to the surface. There was need, too, for an entirely new system of navigation — the submarine, even though submerged for long periods, would have to know its position to the nth degree if it was to fire its missiles accurately.

Thirdly, it was imperative that newer and better communications techniques be developed, to make it possible to stay in constant touch with a long-submerged submarine on station anywhere in the world. This was a big item — the submarine would have to be given the word to shoot, and surfacing to receive messages would negate much of the concealment and surprise factor.

With all of these requirements in mind, RADM Raborn called in the best brains available in industry, universities, and the Navy to form a steering task group. Meeting daily over the next four months, they designed the system from ground up.

Every facet — missile, submarine

launching system, support facilities, test complexes, everything — was blueprinted before, so to speak, ever a nail was driven.

ONE OF THE FIRST CRITICAL decisions made concerned the problem of handling the multitude of details connected with the program. It would have been only too easy to become bogged down with paper work and red tape. Forms and reports, no matter how well written, would not, in themselves, build missiles.

A new approach was needed, and was made. It was simple.

It worked.

It was based on the concept of a small, highly specialized "Management Team." It used facilities within and outside the military services which were already in existence and operating, rather than setting up new facilities of its own. To implement this the Navy created a Manhattan-Project-type organization which reported directly to SecNav via the Executive Member of the Navy Ballistic Missile Committee, and which had overriding priority and complete authority once approval of the NAVBMC was obtained.

NAVBMC provided policy guidance and was the sole reviewing authority for the *Polaris* program.

The original group of men assigned to SP numbered less than 25. Even today SP's total strength is only 653 persons, divided into four offices — the central one in Washington, plus three others; one on the West Coast, and two on the East

Coast, including the test group at Cape Canaveral. And that 650-plus figure includes not only officers and technicians, but clerical and support personnel as well. Admiral Raborn, refusing to let his "empire" get big and unwieldy, wouldn't add a billet unless it was absolutely necessary. He was fond of observing that "he could get more work out of one overworked man than two under-worked ones." Many of the men who have been with *Polaris* from its start could breathe a fervent amen to that.

Although its director reported directly to SecNav in the military sense, and policy guidance, program review and approval stemmed from the NAVBMC, SP was administratively linked to BUORD. They furnished only administrative support and services, however. As a result, SP drew directly on a wide range of government facilities for design, development, test and training.

SP DEALT DIRECTLY with industry in other technical matters and in procurement. It was, in effect, a "Management Contractor" within the Navy itself, the first such organization ever established. It was a funnel through which military needs and development skills of all types passed into the industrial facilities that produced and assembled the actual hardware, and back into the military facilities which provided the tests and training.

The project involved some rather staggering numbers. There were about 400 major programs, and literally thousands of sub-programs.

POLARIS DUMMY is put in launching tube of *USS Observation Island* (EAG 154) during development of missile system.



These fell into seven broad categories: the missile itself, fuel development, guidance and fire control, launching and handling, navigation and communication, supporting activities, tests and training.

A tight timetable allowed no margin for guesswork or slippage. Each item had to be at the right place, in the right degree of completion, at the right time. And every item had to be developed and obtained outside of SP itself.

Core of the programming and control setup rested on simplification of four fundamentals of planning, coordination, evaluation and communication. A form was developed in SP to organize the planning job. It provided a very simple arrangement of the elements of each specific program: What was the job to be done; what would it consist of; what would it cost, and when would each step involved be completed. It also listed who must do the job; who must provide help or support, and who should know what was going on so that he could do his own job better.

SOON AFTER THE NAVY branched out on its big assignment, technological breakthroughs started coming thick and fast.

First of all, the Atomic Energy Commission found a way to reduce drastically the size of nuclear warheads. This made possible much smaller missiles, since every pound of payload requires approximately 30 pounds of rocket engine to carry it.

Next came development of a workable, and efficient, solid fuel — another must, since, as we've already noted, the Navy was convinced that liquid propellants, volatile and highly flammable, were too dangerous and difficult to handle for use aboard a submarine.

Third breakthrough, and the one which made the whole FBM idea feasible, was the development of a new navigational system which made it possible for a submerged submarine to calculate its exact position at any time without surfacing. An error, even a small one, in calculating position at the launching site would be magnified many times by the time the missile reached the end of its journey.

The new system — called the Ship's Inertial Navigation System, or



HERE'S HOW Polaris Missile Assembly Facility at Charleston will look.

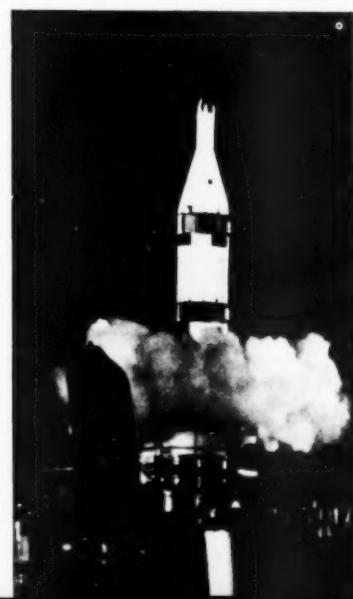
SINS, for short — proved to be the answer.

Essentially SINS is a grouping of delicate, highly sensitive gyroscopes which register the ship's position by finding latitude and longitude, then continuously adjust that position by measuring forward, up and down and lateral movement as the ship travels through the water.

Exploratory cruises under the arctic icecap by the nuclear submarines *Nautilus* and *Skate*, and long-submerged trips by all of our atomic submarines, during which the new system was used almost exclusively, proved SINS to be effective and reliable.

WORK WAS PROCEEDING at an already-rapid pace when, in mid-

NIGHT VOYAGE — Polaris test vehicle takes nose cone full of instruments aloft for a night flight test.

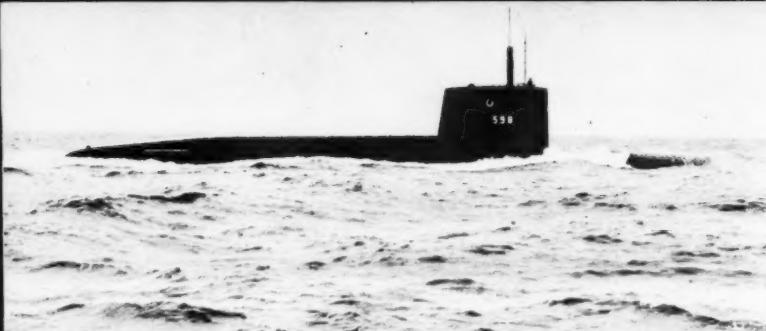


1957, Russia fired its first ICBM, and then, in October of that year, put Sputnik I into orbit. There could be no more complacency now—the distance to our shores had suddenly shrunk from thousands of miles to 30 minutes.

The nation's leaders felt that something had to be produced, and fast, to provide an answer to the threat posed by those Soviet achievements. They asked Admiral Raborn if he could possibly speed up *Polaris* development. The Admiral took less than a week to give them his answer — he could, and would, provided the administration would accept a 1200-mile range missile instead of the 1500-mile missile then in the making. This concept was accepted, and Admiral Raborn promised to produce an operational system by 1960 — three full years ahead of schedule.

So it was accelerate an already accelerated program, flank speed ahead. RADM Raborn was given still more money, and all the backing he could ask for. His next move was to request the top men from all of the program's important contractors to meet with him in Washington. In an impassioned speech he told them what he wanted to do, and asked if they were willing to proceed on "wartime urgency with wartime dedication." The answer was yes.

RADM Raborn also had another decision to make — one which required plenty of courage. He decided to plump for immediate construction of a submarine to house and fire the missile, before he could prove that a workable missile could be produced. He was confident that his team would come through.



POLARIS PAD—USS George Washington, SSB(N) 598, cruises on the surface.

NO SMALL GAMBLE, when you consider that the cost of an FBM submarine is a cool \$100,000,000 to \$120,000,000. It was a gamble that had to be taken, however, if the Navy was to meet its new deadline.

To speed up even more, it was decided to take the hull of the nuclear-powered *Skipjack*-class submarine *Scorpion* already under construction at Groton, Conn., cut her in two, and insert a 130-foot section containing the *Polaris* launching tubes. So *Scorpion* became *George Washington*.

Then a lot of lead time and a substantial amount of money were saved through use of an already-developed Air Force rocket for tests leading to the final design of the *Polaris* nose cone. The X-17, slightly modified, a sub-scale re-entry shape attached, and nicknamed *Polaris*, j.g., was fired more than 20 times to heights of from 50 to 250 miles, then brought back to earth, subjecting the nose cone to blazing re-entry temperatures. Use of this off-the-shelf missile speeded design of the *Polaris* nose cone by at least a year.

FIRST TESTS OF a launching apparatus were from a tube built above ground at the San Francisco Naval Shipyard. Scores of dummy missiles of all shapes and sizes and varying construction—first redwood logs, then concrete-filled steel cylinders, finally

concrete-filled boiler-plate — were fired there as technicians strove to find out how much air pressure was required, and at what rate, to do the best job of propelling *Polaris* up through the water from varied depths.

Later, many more test launches were made from Operation Pop-up, an underwater tube anchored to a concrete launching pad on the ocean bottom near San Clemente Island.

Best known of all *Polaris* test facilities, of course, is the one at Cape Canaveral. Most of the live test firings were held there. Many of them were launched from a tube built into a huge, buried "shaker."

It was called the Ship's Motion Simulator. Somewhat resembling an outsize cement mixer, this monstrosity, when set in motion, could be made to move up or down, and to roll, heave, pitch and yaw, faithfully reproducing the action of a ship at sea.

Many test firings were also staged at sea—aboard *Observation Island*. A post-World War II mariner-class merchant ship, she was taken out of mothballs, converted by the Navy, and redesignated EAG 154.

OBSERVATION ISLAND has two *Polaris* launching tubes sunk in her deck, one of which is a tactical submarine type, and is crammed with tracking, test and evaluation gear. She also was equipped with

'TEST TUBE'—USS Observation Island (EAG 154) arrives at Cape Canaveral.



submarine-type navigation and fire control gear, making possible complete system tests on the surface—an important step in the chain which led to the first submerged test by *George Washington*.

Sixty-odd test firings of live prototype *Polaris* missiles were staged between January 1958 and the July 20th shot.

Of these, two were termed outright failures, 20 were rated as partial successes, the remainder complete successes. Even the failures and partial successes were successes in a way, for they revealed flaws which could be corrected or eliminated in future shots.

Mentioned earlier was the fact that one of the major achievements which made *Polaris*, in its present form, possible was the development of a solid propellant. It is this solid fuel which sets *Polaris* apart in the intermediate ballistic missile field—it gives it the power of almost instantaneous reaction.

Liquid-fueled missiles had several disadvantages for submarine application. Some have been noted—size, stowage, handling and safety drawbacks, among others. Another overriding consideration, however, was the desire to make *Polaris* capable of being launched in a hurry.

Many liquid-fueled missiles, for one thing, can't be fueled much in advance of firing. If they were, the liquid's extreme temperatures (more than 300 degrees below zero) would boil off the liquid oxygen in a short time. The fueling process is a long and complicated one. A complex maze of tubes, wiring and valves require an elaborate and time-consuming pre-firing check-off procedure, or countdown. Thus the interval between the order to fire and the actual launching of a liquid-fueled intermediate or ICBM-type missile can range as high as 48 hours—a completely unacceptable figure—so far as *Polaris*' designers were concerned.

Solid-fuel missiles, on the other hand, can be loaded and stored in their launching tubes almost indefinitely, ready for practically instantaneous firing.

HOWEVER, there were plenty of problems connected with the use of a solid propellant too, and it took years of painstaking research to iron out the bugs.

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were in granular form, somewhat resembling gunpowder. As they burned, they generated such intense heat that entirely new types of metals had to be developed for the missiles' wall structure.

Another solid-fuel drawback in the beginning — its low impulse. Known solids simply didn't pack the punch to propel a 1500-mile missile, without making it so large that it would be completely unacceptable for shipboard use.

Stage by stage the problems were solved.

Long research into various combinations of chemical fuels produced a fuel with much higher specific impulse. The temperature factor, whereby some solids tended to become brittle at low temperatures and cause engine blowups, was overcome. A means of changing the thrust output of solid propellants was devised.

One of the toughest problems was licked through development of a device which could control and shut off the thrust at exactly the right instant to assure accuracy of the missile. Thousands of static test firings helped develop a combination of conventional and exotic metals and non-metals which could withstand the tremendous heat and huge flow of gases at the nozzle end of the rocket engine.

IN THE END they produced a truly push-button missile which is simple, rugged, ready and reliable.

All it needs is an igniter in the core to be off to the races.

After the first stage has done its job, and the second stage has burned exactly the prescribed length of time, the device we mentioned previously cuts off thrust, the second stage peels away, and the payload then follows a traditional ballistic trajectory to the target. It is placed in that trajectory by its enormously intricate, built-in inertial guidance system.

The launching from *George Washington* was a climax, but certainly not the end, of the *Polaris* story. For one thing, Admiral Raborn says, within two years further advances in solid fuels will provide a longer-burning, higher-thrust first stage which will up *Polaris'* range to the vicinity of 1500 nautical miles. By 1965, it will have reached 2500 nautical miles. There will be improvements in the missile's inertial guid-



SPECIAL MAIL cachet designated to ride with *Polaris* in first underwater test shot from sub is prepared by crew members of *USS George Washington*.

ance system. More work remains to be done on thrust control.

WE SAID IN THE beginning that the recent test launch from *George Washington* was a shot heard 'round the world. It has to be—and for a quite simple and basic reason: *The world is never going to be quite the same from now on.*

Some time this fall *George Washington* will pay a quick visit to the Naval Weapons Annex at Charleston, S.C. There civilian technicians and Navy enlisted men assemble and check out *Polaris*, whose various parts and components have been shipped in from all parts of the country.

Sixteen nuclear-tipped missiles will be loaded aboard *George Washington*, each stowed in its own launching tube, fueled and ready to go. Then, suddenly, the sub will slip quietly out to sea and submerge.

From that moment on, all would-be aggressors can only guess.

Somewhere, anywhere, plowing its swift, stealthy way beneath the more than 140 million square miles of water which make up three-fourths of the earth's surface, *George Washington* will be on station, its whereabouts known only to the

LETTER mailed from under the sea inside *Polaris* nose looked like this.



Navy and Defense Departments, and the President.

It is dangerous, certainly, to think of any weapon as the ultimate. And no one, least of all the Navy, thinks *Polaris* will be the final answer for all our defense problems. But you may be confident: *For the foreseeable future the nuclear-propelled ballistic missile submarine with its missiles, marks the closest approach yet made to achievement of the ultimate deterrent.*

JUST WHAT IS A DETERRENT, ANYWAY? Well, in simple terms, it's just what the word implies—it's anything that will make the other fellow stop to think twice before attacking you.

Consider it in this light. Suppose you were face to face with a character you felt fairly sure was capable of knocking your block off. He's got a club—you've got a club. You're of approximately the same size and weight. Now you may feel you're pretty tough, and that if you swing first, you can whip him. But, what if you suddenly found out that he also has a gun in his pocket, and shows every inclination to use it if you do swing. Wouldn't that put a fairly effective damper on your enthusiasm?

Polaris will pose a quite similar problem to any potential aggressor who might be tempted to launch a surprise attack against the U.S.

He may feel that he can loose massive fleets of long-range ICBMs which would destroy our fixed-position missiles on their launching pads. He may feel sure that even if some of those missiles did manage to get off the ground, because of his

knowledge of their launching sites he could predict their trajectory, and intercept them before they reached his shores. He might be equally confident of his ability to handle anything our long-range bombers and carrier strike force could throw against him.

He must fear the FBM submarines, however—because he won't know where they are in advance, they will be extremely hard to find, and almost impossible to destroy. Even if he should get one or two, he could never get them all. Most important, FBM submarines are immune to surprise attack by ballistic missiles because they are always on the move.

ASSUME FOR A MOMENT that an aggressor did launch an all-out atomic attack against us. *George Washington* would presumably be cruising submerged on a routine patrol—somewhere on, or under, the seven seas. She might be moving fast—well over 20 knots—or she might be suspended in the deep, almost perfectly still. Her small and remarkably efficient nuclear reactor will let her do either equally well.

Suddenly, orders would come flashing from Washington over a special (and still secret) communications system. Alarm buzzers would sound, and within seconds the submarine would be ready to begin a counterattack.

Her *Polaris* missiles have already been set for varied targets. As she speeds along, SINS is registering her longitude and latitude, exact to a very small fraction of a mile. Other machinery is measuring roll and pitch of the hull, and any swaying

motion caused by underwater currents. All of this information is feeding continuously and instantaneously into the most intricate of the submarine's brains—its fire control system. In the system's electronic memory is the exact geographical location of the pre-assigned target for each missile. It is constantly sending impulses to another brain in the missile itself, telling it how to reach the target from its present position.

If ordered to fire, *George Washington* could launch her 16 missiles in a matter of minutes. If ordered to stand by, she could remain on the alert and ready to fire indefinitely.

HER FREEDOM FROM SURPRISE AT TACK—hence her relative invulnerability—brings another advantage. It isn't necessary to launch *Polaris* within 15 to 30 minutes after an alert. The FBM submarine, in no danger from the enemy's ICBM's, gives the nation's leaders time for a mature survey of the situation, rather than demanding crash decisions.

It could be a means of preventing accidental war resulting from too hasty an evaluation of what appears to be an attack aimed at the U.S. But if retaliation is launched, whether swiftly or deliberately—and the FBM system offers a choice—it would be certain.

Should the order be given to shoot, the fire control officer pushes a button, and the launching tube muzzle hatch opens.

Instantly powerful compressed air propels the missile from its tube, and sends it streaking up through the water. Once clear of the water first stage rocket engines cut in, and *Polaris* leaps skyward.

As it rises it knows exactly where it is, and where it is supposed to go. Its own inertial guidance system transmits to its brain information about the immediate angle and speed of flight. The brain digests this data, and feeds its decision into the mechanism that steers the missile by deflecting the blast of gas out of the engine's nozzles—all in less than a second. Its course is now set.

As *Polaris* hurtles through the clear, cold reaches of upper space it attains a speed of about 200 miles a minute. Atmospheric conditions could affect its flight, but if so, its brain would immediately make necessary corrections.

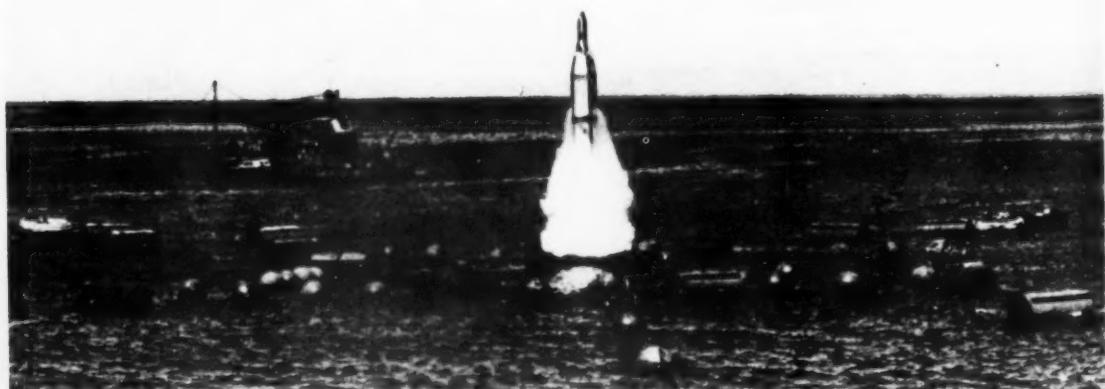
After the first stage drops away, the second stage ignites. Not long after that, the missile's brain makes its final and crucial decision—the exact fraction of a second when the warhead should detach from the second stage, and complete the final portion of the flight by itself. The exact accuracy of the missile on target is still classified—but in less than 15 minutes from launch, the target wouldn't be there anymore.

Meanwhile, *George Washington* would be firing the rest of her missiles—and so would the other FBM submarines scattered around the world. If just ten FBM submarines were on patrol, that would add up to 160 missiles launched. The fact that most of these would inevitably reach their targets will certainly make any potential aggressor think twice.

It's little wonder that CDR Osborn says of *George Washington*: "This ship is not a problem in physics. It is an article of war."

—Jerry McConnell, JO1, USN.

OP POP-UP — Polaris test vehicle breaks through Pacific in tests during Operation Pop-Up in California.





SWEEEPING FRIENDSHIP—USS *Valor* (MSO 472) enters Gibraltar while pulling tour of duty with the Belgian Navy.

Sailing with the Belgian Navy

Uss *VALOR* (MSO 472) has completed a cruise with the Belgian Navy which she believes has made her the first U.S. warship since World War II to sail under the operational control of a foreign nation.

Altogether, *Valor* was gone from her homeport—Panama City, Fla.—for seven months, five of which she spent with the Belgian Navy. In those seven months she covered more than 24,000 miles, making stops in the Congo, Ivory Coast, Sierra Leone, Spain, England, France, Portugal and, of course, Belgium.

One of the non-magnetic ocean-going minesweepers commissioned just after the Korean War, the wooden-hulled *Valor* is powered by four aluminum diesel engines. As a unit of Mine Division 81, she is part of the Atlantic Mine Force.

Valor made her Atlantic crossing with Mine Division 82, then proceeded on her own up the coast of Portugal and Spain and through the English Channel to Ostend, Belgium, where she reported for duty with the Belgian Force Navale.

In Ostend, *Valor* was given six days to replenish and get used to her new role. The stop also gave the minesweeper's crew time for liberty and recreation. Then, as a unit of Belgian Division 191 (consisting of three American-built ocean-going minesweepers) she sailed for Africa, in company with the Belgian Naval Flagship *Kamina* (an APA type), a frigate and a coastal minesweeper.

On the way, stops were made at Lisbon, Portugal; Las Palmas, Canary Islands; and Freetown, Sierra Leone. Shortly after this *Valor* reached her destination—the Belgian Naval Base at Banana, in the Congo. (This was before the Congo had received its independence and before the uprisings which were soon to be headlined in the world press.)

During the first several days after *Valor* reached Banana she participated in fleet exercises at the mouth of the Congo River. Then, with five other ships, she steamed 87 miles up the swift Congo River to the foot of the rapids at Matadi—a once-in-a-lifetime port of call for an American ship. Here the crew went on liberty, a unique experience even for the world-traveled Navymen.

Upon her return to Banana *Valor*

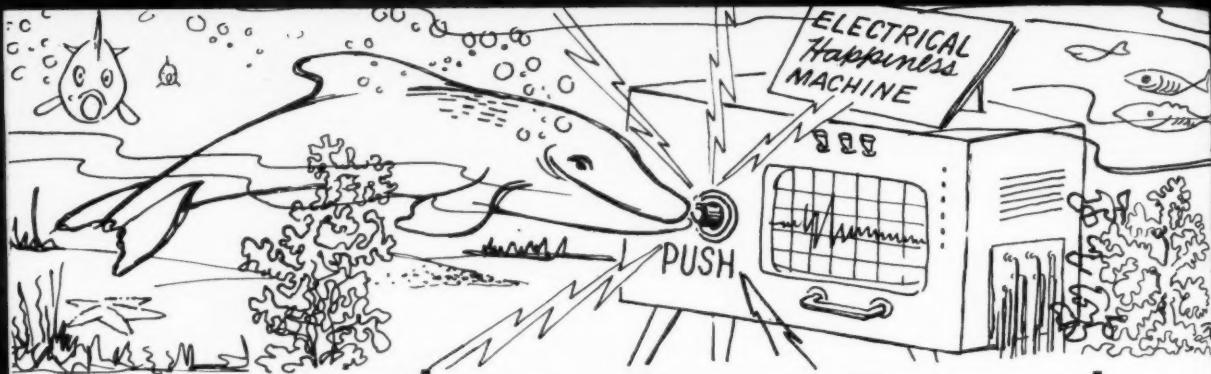
began preparing for the trip back to Ostend. The return voyage to Belgium was highlighted by a second call at Las Palmas and a short stop at Abidjan, Ivory Coast.

After reaching Ostend *Valor* spent a month there, during which she and her Belgian division held extensive minesweeping practice in the North Sea in preparation for a NATO exercise.

The exercises were followed by an upkeep period back at Ostend, after which *Valor* departed her "home away from home" and headed for Rota, Spain, via Lisbon. At Rota she rejoined Mine Division 82 to recross the Atlantic with that unit. She left the division off Bermuda, made one quick stop at Key West, Fla., for refueling, then steamed to homeport at Panama City.

MINE TALK—Students of Belgian Mine Warfare school look over USS *Valor*.





A Sailor's Best Friend

NAVYMEN HAVE LONG KNOWN that porpoises are pretty good amateur clowns. Now, scientists at work on projects assisted by the Navy are finding out these frolicsome show-offs are much more than mere entertainers.

To name just a few of their many talents, porpoises can:

- Almost literally swim circles around some of the fastest ships.
- Find their way "blindfolded" through underwater obstacle courses and tell one kind of fish from another with their own, highly-efficient version of sonar.
- Learn some things as quickly as human beings do.
- "Shift gears" to swim at different speeds on command.
- Appear to imitate a wide variety of sounds, including human conversation.
- Communicate with one another in "porpoise talk."

By studying porpoises the scientists hope to acquire knowledge which human beings may be able to use in all sorts of ways. For instance, if we knew how porpoises manage to swim so fast, we might be able to pass their secret along to the designers of ships. Or, if we could find techniques for understanding por-

poise talk, we might be able to use the same methods to learn to say, "Take us to your leader," in the languages of other planets.

Chances are whomever or whatever we meet on other planets won't be much more unusual than the porpoise.

To the uninitiated he may look just like another fish. However, he's really not a fish at all—he's a mammal classified in the same zoological order as the toothed whale. Thousands of years ago his ancestors lived on land, but he's been on sea duty so long that he now looks like a fish to most people, even though he can't breathe underwater and has to come up for air every few minutes.

IN POPULAR USAGE the name, porpoise, has come to include not only porpoises, but also bottle-nosed dolphins and assorted other mammals which belong to the same zoological family as the porpoise. (Since that usage helps keep the mammal known as the dolphin from being confused with the gamefish of the same name, it's the one this article is following.)

Seafaring men have long considered the porpoise a friend. For example, some years ago there was one known as "Pelorus Jack," which was

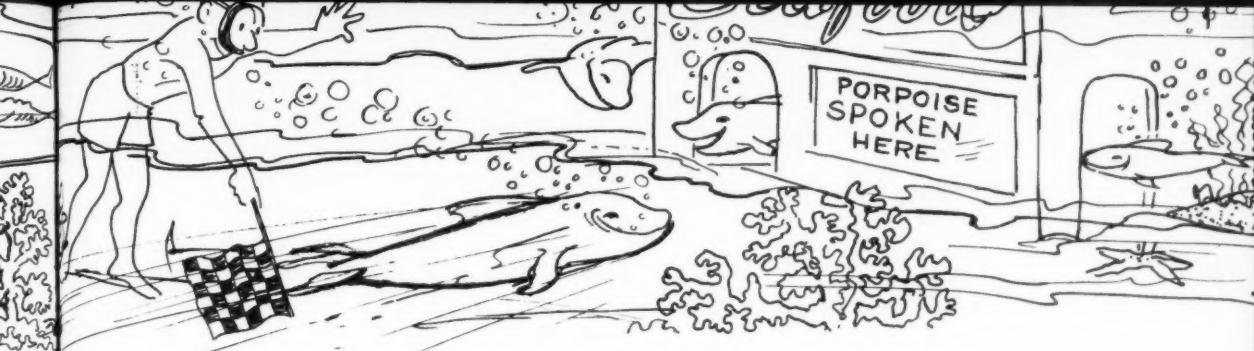
very well known among the sailors who had visited New Zealand, because of his habit of escorting ships as they steamed through Pelorus Sound.

In Australia, the natives of Moreton Bay, Queensland, do their fishing on a cooperative basis with the local porpoises. According to an account in the Encyclopaedia Britannica, the porpoises drive the fish ashore for the natives, and the natives repay the favor by spearing some of the fish and offering them to the porpoises.

Not all of the porpoise's kin are this friendly. One of his close relatives, *Orcinus orca*, the largest of the mammal dolphins, is also known as the killer whale or grampus. On occasion he gets downright nasty—especially with other animals. A group of killers will sometimes get together to attack a large whale, force its mouth open and eat its tongue. Since a male killer reaches a length of about 30 feet, and he is so ferocious, it's a good idea to regard him as a dangerous animal. However, there seems to be little evidence he will attack man.

PEOPLE WHO HAVE EXPERIMENTED with porpoises report that all of these creatures, for some reason, will let human beings do things to them





for which they would kill a fish or any other animal.

This friendliness is one of the reasons the porpoise is such a good subject for the sort of experimentation the Office of Naval Research is now backing.

Among the main items of interest to the Navy is the porpoise's swimming ability, for theoretically — at least according to the sort of theory which says it's impossible for a bumblebee to fly—the porpoise can't swim as fast as he does. Yet, when full-grown he manages to attain speeds of from 30 to 40 knots, overtaking and keeping ahead of some of our fastest ships.

One porpoise—a playful three-year-old by the name of Notty—is now doing her bit to show the Navy what the secret is.

Notty belongs to the Naval Ordnance Test Station at China Lake, Calif. Although she's just a baby, she can already do better than 20 knots when she gets the order to hit top speed. She was caught a few miles off the California coast and first introduced to her new career at an outdoor aquarium in Palos Verdes, Calif. There, she was kept apart from "ordinary" porpoises which honk horns and play water polo to entertain visitors to the exhibit.

She was trained by a psychologist from the University of California, who has taught her to:

- Take off at full speed when he signals her with a wave of his hand.

- Hold still while dyes, used as a visual aid in clocking her speed, are smeared on her skin.

- Wear a sort of harness used to carry equipment for measuring various data during time trials.

After going through the "boot camp" where she learned these fundamentals, Notty was flown from Palos Verdes to San Diego to go to work at an aircraft factory — in a window tank 12 feet wide and 341 feet long, which was built for testing amphibian planes. During speed runs in the tank experts are watching Notty closely.

As she streaks through the water, cameras record her every motion. Tiny instruments fastened to her skin with suction cups radio data on her heartbeat, respiration and temperature to the scientists who are trying to find out not only how she swims so fast, but also, how she swims so silently.

A NUMBER OF THEORIES have been advanced to explain the porpoise's speed. One of them is that skin temperature has something to do with it. (Porpoises have a rich mass of blood vessels just under the skin and, perhaps, blood pumped through these vessels, may warm the water around the animal to make the water "thinner" and easier to penetrate.)

Other theories involve the possible movement of muscles under the skin to reduce the effects of friction, or the employment of turbulence as a propulsion mechanism. Whatever the explanation, scientists studying Notty are doing their best to come up with it. At the same time, they're also trying to figure out how a porpoise, apparently without any effort at all, can keep ahead of a ship.

The porpoise version of sonar is being investigated just as thoroughly as his swimming ability.

One of the researchers the Navy has aided in this field is Dr. W. N. Kellogg, professor of experimental psychology at Florida State University. He studied the echo-ranging ability of two bottlenose dolphins, named Albert and Betty, in a large pool on the Florida coast beside the Gulf of Mexico.

The pool was usually so muddy that the average visibility in it was only about 20 inches. Yet, by bouncing sound pulses off of objects—with a noise that sounds like a creaking door—they could identify and locate the objects through their echoes. The porpoises performed all sorts of feats to show off their sonar.

IN ONE SERIES OF TESTS the 55-by-70-foot pool was studded with metal poles which, if touched or struck lightly, gave off a bell-like ring. During their first 20-minute session



of swimming through this maze, the two porpoises together brushed the poles a total of only four times. (Apparently these contacts took place when the porpoises' horizontal tail flukes touched the poles after their bodies had already passed an obstruction.)

In the second session with this obstacle course the porpoises made even fewer contacts with the poles, and after that they negotiated the course in test after test without touching the poles at all. Even in the dark, the porpoises swam all over the pool without touching the obstacles.

Another set of experiments was based on the porpoise's preference for one kind of fish (spot) over another (mullet) at snack time.

At first, Albert and Betty were fed mullet, but they soon refused to eat them. They did like spot, and ate them readily, so the researchers used the two kinds of fish as a means of testing Albert's ability to judge target sizes with his sonar. During each of these tests a 12-inch mullet and a six inch spot were silently inserted into the water at the same time by someone hidden from Albert's view behind a plywood screen.

After a few exploratory sessions in which Albert learned that the smaller fish was always the spot, he headed unerringly for it every time—no matter how dark or muddy the water was.

The conditions throughout these experiments were so carefully regulated that the only logical explanation of the porpoise's performance was his echo ranging ability—not the use of any of the senses human beings employ in such situations.

WHILE DR. KELLOGG has been putting Albert and Betty through their paces, Dr. John C. Lilly, has been studying the porpoise from other angles.

In experiments being carried out

in the Virgin Islands with an assist from the Office of Naval Research, Dr. Lilly is looking into the porpoise's intelligence and his language, which is made up of assorted buzzing, whistling, rattling and squeaking noises.

From what he has already learned about these animals, the doctor is convinced bottlenose dolphins are the most intelligent beasts on earth. He ranks them far above the chimpanzee, which is generally considered the brightest land animal, and way ahead of such sentimental favorites in the animal IQ derby as dogs, cats and horses.

A dolphin's brain is larger than that of a human being, and his cerebral cortex, or gray matter (the seat of consciousness where the higher mental functions take place), is apparently just as complicated.

The porpoise can learn some things just as quickly as a human being does, and much faster than any other animal can.

In one experiment dolphins learned in a single demonstration to operate a device it takes a chimp dozens of tries to master. The device consisted of an electrical apparatus which gave the animal a pleasant tingle whenever he worked a switch correctly. The gadget gave the dolphins such a charge (pun intended) that their eyes would light up and the muscles around their blow holes would break into a sort of smile whenever they got their electrical treat.

When this was used as a reward the dolphins would do their darnedest to earn it.

DURING ONE SESSION the apparatus broke down, but a tape recorder being used along with it kept on running. When Dr. Lilly played the tape back he heard himself read the footage on it—323. His voice was followed by another—the dolphin's—which repeated the number in a rapid high

pitch that sounded something like a phonograph record being played too fast. After that came recognizable imitations of the hum of a transformer and the noise made by the doctor's movie camera. The dolphin associating these sounds with the pleasure it got from the electrical pulse, was trying to set off the device again.

Besides imitating sounds, the porpoise can say some things of his own. One of his "words"—a very shrill whistle apparently means, "Help!"

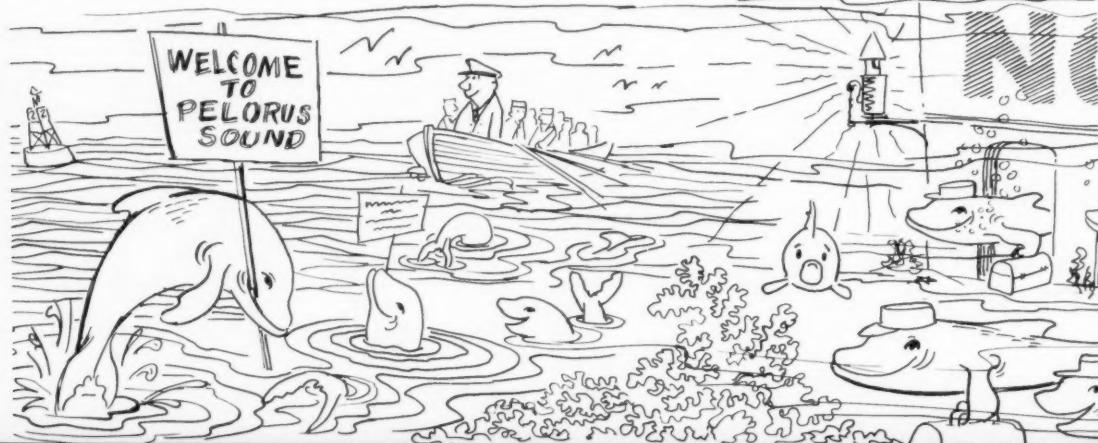
One day, when two injured animals were put in a pool with two healthy ones, the hurt porpoises gave this whistle, and the two healthy ones immediately rushed to the rescue, helping the "casualties" to the surface so they could breathe. All through the operation rescuers and rescued kept up an almost steady exchange of porpoise talk.

Another typical demonstration of the porpoise's ability to communicate involved a bit of porpoise baby talk. This occurred when a young porpoise on an exploratory cruise around his tank, found himself pointed into a corner and didn't know how to get out of it. Junior emitted some frightened squeaks and squeals, and in a jiffy Mama was at his side guiding him out of his predicament.

All of this just goes to show that porpoises are pretty smart. As a matter of fact, people who have trained them say these unusual animals sometimes get ahead of their human instructors when being taught.

At outdoors aquariums in California and Florida porpoises quickly learn to perform all sorts of tricks to entertain the tourists. With very little coaching they can even play water polo.

So far, people are in most cases managing to look smarter than porpoises. However, the Navy is convinced that no matter how smart we are, we can still learn a lot from these smiling sea creatures. —Jerry Wolff.





IN THE SWIM—Navymen of Patrol Squadron 19 test new anti-exposure suits in cold waters of San Francisco Bay.

How to Swim Without Getting Wet

The weather wasn't exactly right for swimming—in fact, it was cloudy and cold. But the 70 men of Patrol Squadron 19 were dressed for it—in the new MK-4 anti-exposure suit.

The test started with members of the squadron boarding an NAS Alameda crash boat which took them out into San Francisco Bay. Each of the men was to jump into the water and swim to a life raft to await rescue.

When a P2V Neptune search and patrol plane appeared, the men set off orange smoke signals and flares. After a couple of identifying passes, the patrol bomber radioed their position to a rescue helicopter. The chopper arrived in a few minutes.

Other pilots and crewmen who had watched the rescue from the beach, now joined in the exercise.

They entered the water to test their suits. They found the outfits kept them warm, dry and buoyant.

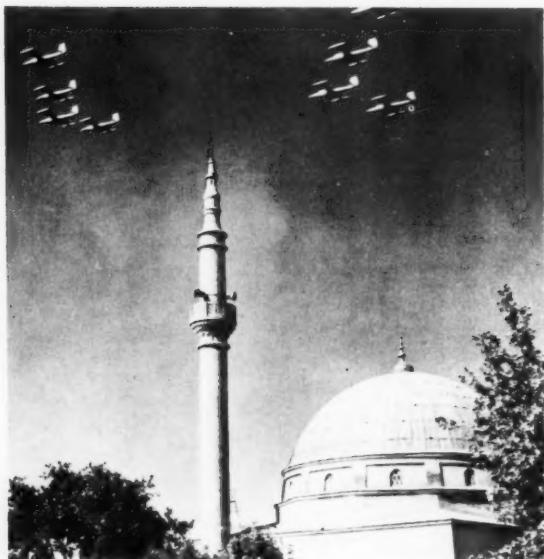
The exposure suit consists of an insulating liner and an outer suit of waterproof material. The one-piece liner is quilted rayon-covered insulation with knitted wristlets and ankles and is tailored and sized for close body fit. The outer suit has elastic wrist and neck seals as well as boots and gloves. Although the outer suit is waterproof, it allows perspiration to pass through.

When dressed in the MK-4 suit, men are safe for at least an hour in water at freezing temperatures. If the head and hands are protected, they can survive even longer. On land, the suit will give longer protection, even in sub-zero weather.



NO BIKINIS HERE—New suits kept the airmen warm and dry until copters air-lifted them from the bay to beach.



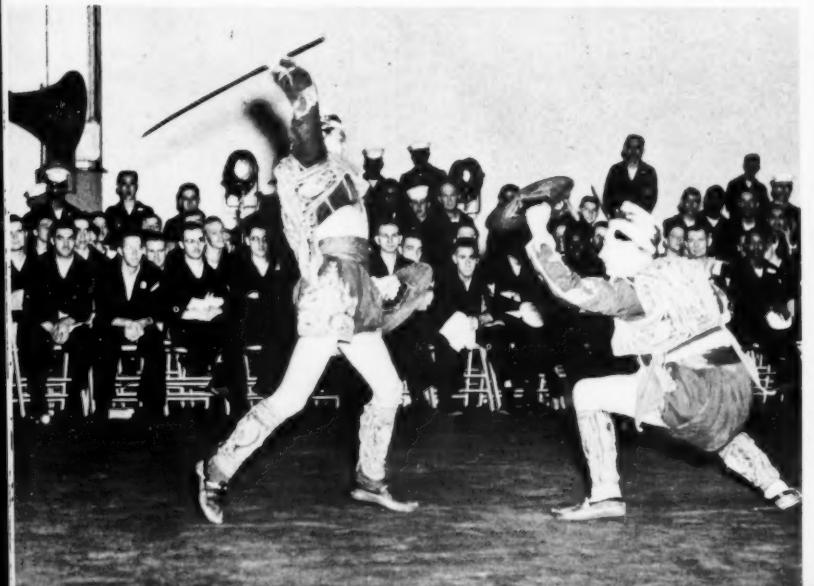


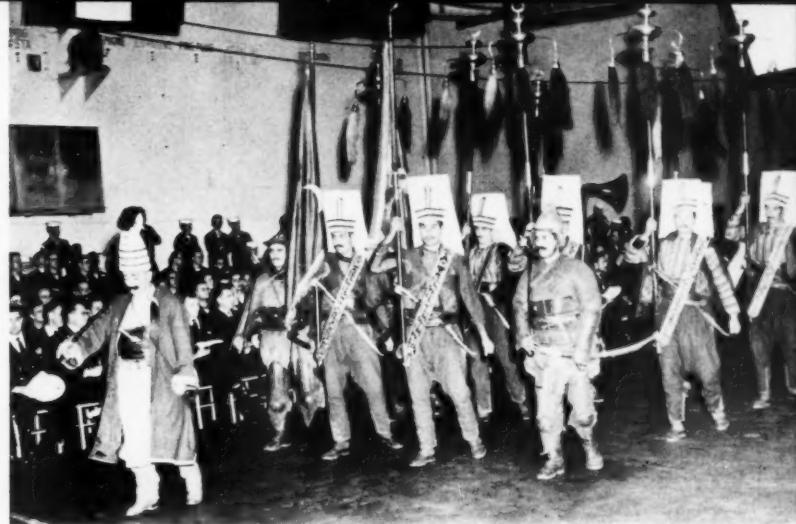
Sixth Fleet's Sailorour

UNITS OF THE SIXTH FLEET, including flagship *Des Moines* (CA 134), the super carrier *Forrestal* (CVA 59), several destroyers and other ships have sailed through the Dardanelles in recent months on good-will visits to our Middle Eastern allies in Turkey. As the ships dropped anchor and made ready to go ashore at Istanbul the ancient and modern buildings, minarets and mosques lining the Bosphorus pointed up the fact that this was where the West had met the East for centuries.

Turkish citizens lined the streets while the Sixth Fleet Band, playing American and Turkish songs, marched to the Monument of the Republic and Barbarossa's tomb where the Navy held wreath-laying ceremonies.

On one visit ancient Turkish military pomp and grandeur boarded *Forrestal* as citizens of Istanbul put on a colorful show demonstrating aspects of their heritage. Carrying on in the proud tradition of the famed Janissaries, the Mehterhan band saluted the Sixth Fleet sailors with the unusual music that spurred this historic military unit into battle and helped establish its reputation on the battle field. In addition, folk dancers entertained





Honour through Turkey

on the hangar deck with a variety of interesting dances from all parts of Turkey.

During the visit, traditional military honors, ceremonies, and visits were exchanged between U.S. Navy personnel and Turkish military and civilian dignitaries. The ships departed with full military honors taking with them Turkish military leaders for a two-day look at Sixth Fleet ships in action.

Clockwise from upper left: (1) Sixth Fleet Band plays for Turkish people as it marches through streets of Istanbul. (2) Liberty boat heads for Fleet landing at Istanbul, Turkey. (3) Turkish Janissary band performs on hangar deck of *uss Forrestal* (CVA 59). (4) Wreath is placed at the Monument of the Republic as the Sixth Fleet band plays U.S. and Turkish National Anthems. (5) Turkish Navy chief flashes signal from training center on Yassiada Island. (6) Honors are rendered Turkish flag during color ceremonies on board *uss Forrestal*. (7) Sword dancers put on colorful dance for Navymen in carrier's hangar deck. (8) Turkish jets assigned to NATO sweep the sky over centuries-old mosque in Istanbul.





ROUND TABLE—NESEP students hold panel session on leadership as part of their training as potential Navy officers.

NESEP UNIVERSITY

OUR MISSILE-MINDED NAVY has an ever increasing need for men skilled in electronic system engineering. To help furnish these men, two universities in the United States offer a bachelor of science degree in this subject to Navymen studying under the Navy Enlisted Scientific Education Program (NESEP).

Besides these two universities, 20 other colleges throughout the country offer NESEP students courses in physics, chemistry, aeronautical engineering, chemical engineering or

courses in nucleonic engineering.

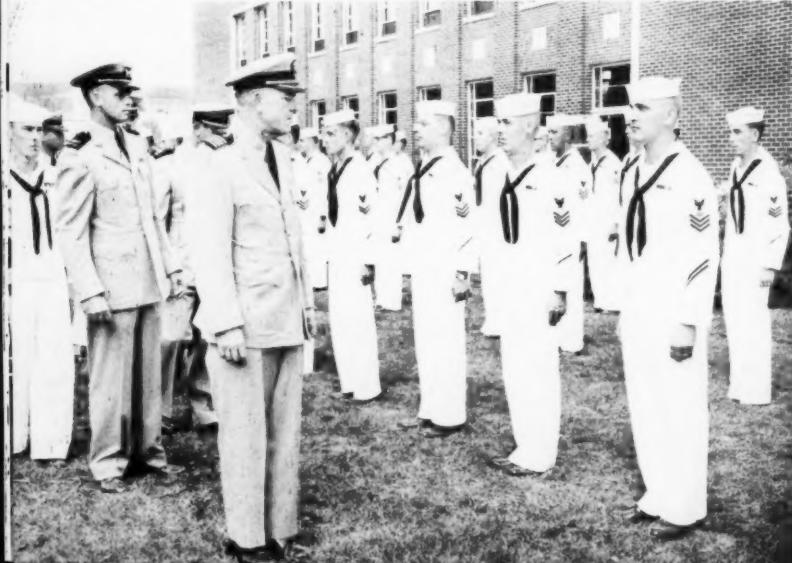
Purdue University is typical of the colleges at which NESEP students attend classes. It offers NESEP students a baccalaureate in electrical engineering with a major in electronics system engineering.

Currently there are 130 men enrolled in the program at Purdue. Unlike most of the regular college students, NESEP men attend classes throughout the year. An additional 78 students will join the 130 for the fall term at the university.

THE NESEP PROGRAM in the Navy dates back to 1956 when 50 men from the Fleet were selected to participate in a pilot program. At that time the program was known as the Navy Enlisted Advanced School Program. These 50 selectees came from ships, squadrons, schools, missile groups and testing facilities. Two years later the present NESEP plan was developed.

Twenty-two of the 78 NESEP students scheduled to start at Purdue this fall are from the original 1956 pro-

NAVY TIME—Navy students at Purdue stand inspection. Rt: Chief W. L. Twining poses with wife, children, books.



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gram. They spent two years in college, have gone to sea for two years, and are now back to finish their college course. At first the program consisted of two years of college, followed by two years in the Fleet, before returning for the final two years. Under the current program, however, the men stay in school for four years, unless they complete the requirements for a B.S. degree sooner.

Since the men in the NESEP program are potential naval officers, their leadership training is met by seminars at which the men try to come up with solutions to certain leadership situations. Discussions might range from prisoner-of-war experiences and the code of conduct to the operation of a division in a ship that earns an "E."

The individual drive and mature attitude of NESEP Navymen have attracted notice among the Purdue faculty. As a group, they have achieved grades that top those of almost every other group on campus. The leaders of the program at Purdue are particularly proud of one of the first graduates in 1958, Ensign Gerald A. Harkless, who was listed a "distinguished student" for four of his five semesters there.

MOST OF THE NAVYMEN at Purdue are married and have families. Although they average three children to the family, one of the men has six children. Being a family man does not prove to be a handicap, according to these Navymen, in their studies or career.

A Navy student organization called the Upsilon Sigma Nu, Engineering



SLIDING INTO ENGINEERING—Need for men skilled in electronic system engineering in today's Navy led to Navy Enlisted Scientific Education Program.

and Science Association, gives the men an opportunity to discuss mutual problems and to exchange ideas and sea stories. It also gives them an opportunity to participate in student activities as a Navy group. The wives have also formed an auxiliary to Upsilon Sigma Nu.

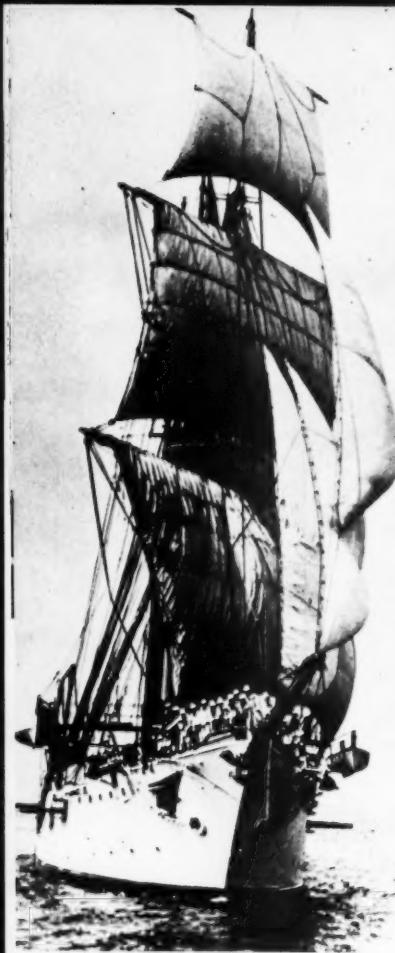
Besides this group, the students still belong to another organization—the U.S. Navy. While in college they

continue to stand inspection and advance in rate. When a student receives his degree he is ordered to the Officer Candidate School, Newport, R.I., for officer indoctrination. On completion of that training, he receives a commission as Ensign.

Then he's ready for the next step of an NESEP Navymen, putting his knowledge to work in the electronic, supersonic, nucleonic Navy.

IN STEP—Opportunities for advancement in rate remain open. Here, L. J. Perry receives his appointment to CPO.





RECRUITS learned seamanship on board USS Cumberland when it was moored at pier next to barracks. Below: A lesson in fueling.



They Signed Up

No matter what the time, place or condition, recollections of boot training can almost always evoke a nostalgic sigh for the "Good old days"—after they are over. In this account, R. R. Myers, EMC (Ret.) looks back upon the days of his training at Newport, R. I., in the years that Newport was the principal training station that provided the Fleet's needs of that period.

Recent (within the past 20 years) boots will be able to detect certain similarities and differences in training methods of their day and those of 50 years ago. Present day instructors will be happy to know that they are carrying on a fine old tradition when they compare today's crop of recruits with the Old Navee.

IT WAS JUNE 13, 1910. The place, in the shadow of Old City Hall at Philadelphia. An old time brewery truck loaded with quarter-barrels of beer and ale moved down Market Street behind two huge draft horses and was lost in traffic. Trolley cars of the Philadelphia Rapid Transit clattered and rattled both east and west on the main artery. Broad Street Station was disgorging thousands of commuters who were quickly absorbed in the metropolitan life of the city.

At the Navy Recruiting Station, across from City Hall, erstwhile re-

cruits were beginning to gather for an early morning interview. This is the picture as I remember it that June morning 50 years ago.

We ventured severally and in pairs into the unknown, beyond the blue recruiting flag.

Came noon and we learned that three of the inquisitive ones had passed the physical examination and had otherwise qualified for enlistment and were duly sworn in—and there began my first enlistment.

We were informed that we would leave for New York on the afternoon train and at the appropriate time we scurried up the steps of Broad Street Station to train level and the waiting train. It was one of the Pennsy's fleet of fast trains traveling between Philadelphia and New York and leaving the terminal every hour on the hour. With its giant steam locomotive panting impatiently at the head of a long line of cars, the express looked like a long streak of polished varnish. With this one long look, we scrambled aboard and submerged deep in our seats.

LEAVING BROAD STREET STATION, we swept through miles of crowded rails—a vast network of steel—then on to open country. The big Mogul is highballing it now and, after brief stops at Trenton and Newark, we are rolling across the Kearny meadows—to Jersey City, the New York terminus for the coal-burning "fireball." At the Jersey City Terminal, we board a connecting ferry for downtown New York and are treated to our first view of the waterfront and skyline of the tip of Manhattan.

Tug boats, work horses of the harbor, are everywhere; shoving, pushing and towing. Ferries scurry back and forth in endless procession. Surface craft reigned supreme. It was in the days before tubes, tunnels and bridges under and over the lower Hudson. Landing in Manhattan for the first time was an experience never forgotten. Farm boy lands in big city and looks in awe at the surroundings. West Avenue, along the docks, teemed with traffic of every description.

Horse cars, driven by brass-buttoned, blue-coated, mustachioed

ALL HANDS

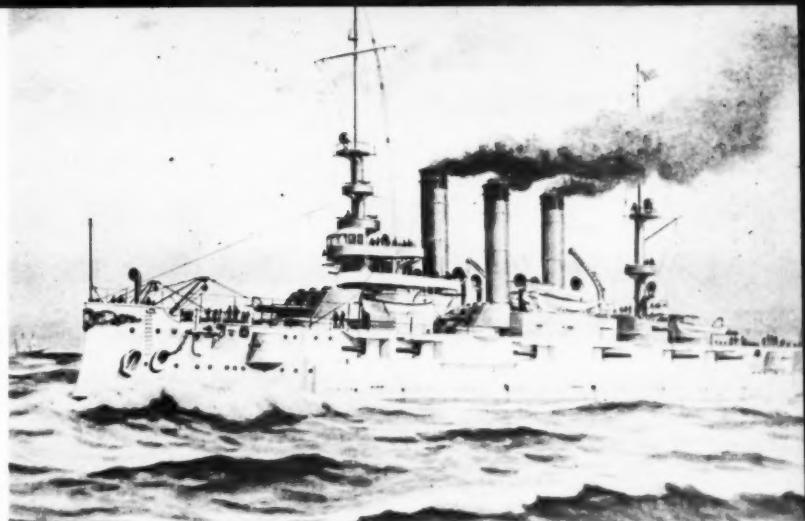
Up in 1910

drivers, moved cautiously through the bedlam. Looking east toward Broadway on Courtland Street, we saw "L" trains thundering north and south on their elevated structures, then disappearing in the canyons between tall buildings. Dockside, we looked for and found the pier for the Fall River Line.

Alongside the dock lay *Commonwealth*, a graceful white steamer plying the inland waters between New York and Fall River, stopping at Newport in each direction. This gay old craft of the turn of the century was to provide transportation on the second leg of our journey, ending at Newport, R. I., location of the Navy's prominent training station. Aboard the "liner," we met and joined forces with the New York contingent of recruits and also a draft from the middle west, all bound for Newport.

WE NOW HAD A COMPOSITE FORCE of about 15 recruits and were about to feel the first effects of the proverb, "in unity there is strength," because we immediately banded together to cope with any adversity in our path.

We thrilled when we felt the ship's engines vibrate below decks. We watched critically every move as her lines were cast off—we were not destined to be future seamen? We joined with other passengers on the upper deck to see *Commonwealth* slip gracefully astern. We could feel the power of her screws as the ship's navigator and helmsman brought her bow around between a Staten Island Ferry and an Erie Railroad tug. We watched the gay old craft swing smoothly around the Battery and into the East River. She was



OFF TO SEA—Training ended with call for men needed for variety of ships preparing for European cruise including the flagship USS Connecticut.

now headed for Hell Gate, Long Island Sound and points in Narragansett Bay.

As a group we draftees congregated on the fo'c'sle. One enlistee from Gotham volunteered to act as official guide and informant. He was good, pointing out principal buildings and places of interest till some one shouted, "There's the Brooklyn Navy Yard." And another shout, "Look! There's the Florida." Sure enough, there was the yard, its various activities extending deep into the roadstead, and at the fitting-out dock was *Florida*. Representing the latest in battleship design, *Florida* was scheduled to join the Fleet in 1911. She did, and old-timers remember her as one of the best battletugboats of the Atlantic Fleet.

Our ship knifed its way up the East River, glided under the Queensboro Bridge, steamed impassively past Blackwell's Island, turned sharply through Hell Gate and entered Long Island Sound. From there on it was smooth sailing. The Sound was sun-drenched at the hour with

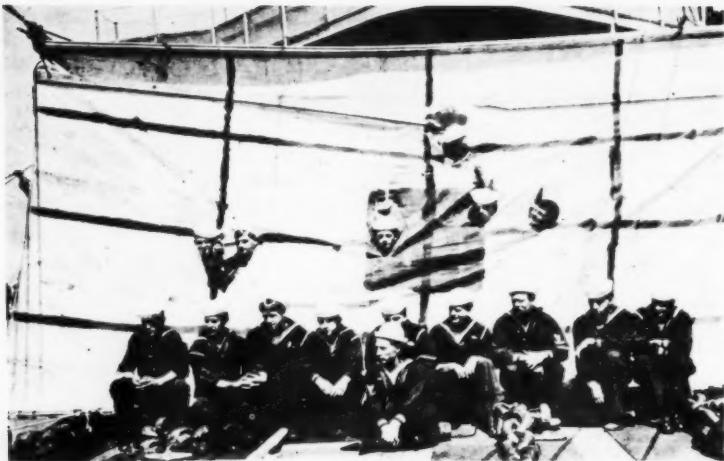
the shadows of evening creeping in. Soon, beacons along the Connecticut shoreline would be emitting their night signals. The night was clear. The water smooth. Cool fresh air swept over the steamer's topside. A quartermaster struck the hour on the ship's bell. A calm quietness settled over the upper decks.

WE ARRIVED AT NEWPORT at about 3:30 A.M. and tied up at Long Wharf, a long wooden dock supported by creaking, worm-eaten pilings. Fifteen sleepy recruits stumbled over the gangway to be greeted on the dock by a cox'n in Navy blue. He was our reception committee and, after checking our papers, he directed us into a 35-foot steamer.

In a matter of minutes, we were headed for the Receiving Dock at Newport Training Station. We were mustered, the first of many such summonses which were to follow, and issued black coffee, presumably to wake us up. We were told to strip and head for the shower. We did. The water was steaming hot.

NOT SO DIFFERENT—Recruits stand formation in front of 'B' barracks at Naval Training Station, Newport, R.I.





GRADUATES of Newport pose on USS Connecticut in 1908 with gun target.

We were provided with a slice of salt water soap for a "smooth, soft lather" and when we were thoroughly soaped, the steam was shut off and water colder than Baffin Bay cascaded down over our shoulders. Our breathing was short, but if Swedes could take a cold bath, so could we, so we stayed under the icy deluge until ordered out. Rubbing ourselves dry, we were escorted into an adjoining room where one by one we stood in the raw in front of the issue room door.

Shoes were issued one size too large. If one kicked he got a larger size. Our first outfit, in addition to the customary whites, underwear, towels, etc., included a plug of Navy regulation tobacco, a corn cob pipe,

a tooth brush—with no dentifrice—and two bars of salt water soap for the manifold purpose of the shower, washing clothes and scrubbing decks—we were really prepared those days.

With our outfits received and checked off, we dressed. I don't remember how, but we dressed and if any band of recruits looked like South Sea beachcombers, we did.

OUR GARMENTS were big and free flowing. Our white hats had a four-inch, soft horizontal brim with a small rolled edge. Our shoes were large and roomy. I think we could have passed for escapees from the penal colony at Devil's Island.

We stuffed our gear into the

depths of a mattress cover and assembled for the march to Barracks "A" where we were to suffer penance in quarantine for the customary 21 days. With mattress cover slung over our shoulders, the march turned out to be a rabble.

Swinging by *Reina Mercedes* in route step, our heavy galoshes scratching and scuffing on the driveway, we were subject to the hoots and howls that greeted recruits daily. However, the march was on and around the turn in the road a group of white buildings loomed.

It was our destination, Barracks "A."

Barracks "A" consisted of a number of two-story, square, brick buildings. Each building housed a company. Each floor a section—in those days a company consisted of two sections and each section three squads. Also on each floor (or deck) were mess tables, billet hooks for hammocks, jackstays for sea bags, a head and a shower room—a combination mess hall, dormitory, recreation room and lavatory.

In the area was the usual grinder, or drill field, where we were to spend grueling hours in the School of Infantry and in setting-up exercises. Bordering on the eastern perimeter of the restricted zone was an estuary separating the island from the mainland.

To the south, and bordering on the channel, was the "smoke house," a pavilion de luxe set aside for smoking, tobacco-chewing and informal discussions (bull sessions).

WAY BACK WHEN—USF Constellation, USS Boxer, and ferry Inca are shown in old photograph of Newport harbor.



WE WERE BROUGHT to a halt in front of our designated barracks and received the good news that breakfast would be served, after which we would receive further instructions. There was no waiting. Morning chow consisting of ham and eggs was already on its way and, having been on the move since 3:00 A.M., we were ready for anything that looked like food—the calories from the black coffee had long since been burned.

After chow our company commander put in an appearance and introduced himself. He briefed us on what he expected from his company and what we should expect from him. He said his name was Leopard and that he was a Chief Master-at-Arms, which at the time meant nothing to us—we would learn more about that rate later. He also said he was a product of the Spanish-American War and that he went around the world with the Fleet on the *Maine*.

"That ship was plenty tough," he said. "Now the Navy is getting soft." (He didn't amplify further on his opinion that the old rugged Navy was on its way out.)

During this semi-informal discussion, the barber arrived. He was a little old man with a mean look in his eye. He probably learned the art by shearing goats. His barber's chair was a bench, but that probably made no difference in his work; he sheared us unmercifully and took great glee in our appearance as he would nudge us off the torture seat.

Next came the doctor and his staff. We coughed, bent over, inhaled, exhaled, had our eyes rechecked and performed a few calisthenics. When he was through, two of our group were standing aside—separation of sheep from goats had already started.

AFTER OUR MEDICAL EXAM, Chief Leopard took over. Our first instructions were stenciling and rolling our clothes, then packing a sea bag—which we were going to use for a long time—lashing a hammock with the regulation number of turns and hauling taut on the jackstay.

We were told what we could do and what not to do. Cigarettes, we learned, were taboo for all apprentice seamen. Apprehension for this violation of regulations could be punishable with five days in the hoosegow. (I never knew of the five-day penalty being inflicted but I saw many lesser punishments carried out.) Swimming in the back channel was a breach of etiquette; we had not been issued swim trunks in our first outfit, and this was considered out of bounds. We did, however, swim in the estuary. After colors, when darkness took over, we had many a night's gambol in the tidal waters. We were not to leave the restricted area at any time without permission, and then only under escort. This ruling may have been observed. I don't remember any one who had any desire to leave the area in the garb of original issue.

We were issued old rusty Win-

chester rifles for drill purposes. The bolt action and firing mechanism had long since been removed but the stock and barrel were still intact, making them perfect pieces for our rudimentary drill periods. There was time for a short elementary formation. Petty officers were selected and the orientation was complete.

Taps found the entire company in the sack after several attempts to swing into and remain a part of the canvas contraptions. A few of the hammocks were hauled taut but, by and large, on this first night, they were mostly swung in a big, long, sway-back arc, defying rest or sleep in any and all manners.

REVEILLE WAS AT 5:00 A.M. and we learned to hit the deck with a snap, lash and haul taut our hammocks and head for the shower in five minutes. After the usual hot and cold drenching, we gathered at the mess table for hot cocoa to warm our chilled blood.

Then, on hands and knees, we formed a line across the barracks floor and with regulation hand scrubbers—and salt water soap—we scrubbed and cleaned every inch of the exposed area.

With pre-breakfast morning chores completed, we would retreat to the smoke house. Particles of Navy plug were cut, ground in the palm of the hand and packed into the bowls of corn cob pipes. The morning smoke fest was on.

Daily routine at Barracks "A" changed but little. Without benefit

WHERE WE TRAINED—At the advent of WW I the Navy mushroomed around the salty core that trained at Newport.





SAILING, SAILING—Old timers at Newport trained on board USS Constellation and the trim brigantine USS Boxer.

of music (the band and bugle squad would come later), we learned the manual of arms, how to march and drill, box the compass and the hand semaphore.

Then we would march and march and march. Came 4 July, our first holiday. We learned from a passing apprentice from Barracks "C" that Jack Jefferies had lost the heavyweight boxing crown to Jack Johnson. The king of pugilism was finally defeated. We also had our first turkey dinner with all the trimmings.

Events of a different nature were now unfolding. The next day, being the fifth, was traditionally pay day. A pay list was posted on the bulletin board and following each of our names was the same amount, \$1.00. This, we were told, was an "advance." Regulations required a month's pay to be carried on the books; we were actually in debt until then. So much for the financial recompence.

Like all good things, we reached the end of quarantine. We assembled in the front of our receiving barracks for the last time and in high spirits executed a squads right and marched with precision to our new quarters—Barracks "C."

AT OUR NEW BARRACKS we were to find numerous changes. Reveille was still at the early hour of 5:00 A.M. We continued to hit the deck sharply at the first notes of the bugle, but the morning shower had a humane touch and the ice-cold deluge was no longer a required finale. We filed into the mess hall from formation three times daily. Battalion drill was executed to the tempo of a marching band and we had real rifles, Krag Jorgenson—the same pieces we would use on the small-

arms range later in our training period. We had movies twice a week, a large wash room, a swimming pool—and liberty twice a week.

Ah, liberty! Those were the good old days with a walk down Thames Street and Long Wharf. There were Dunn's, Silver King's and others. But those entertaining establishments were not for us. Anything stronger to drink than Coca Cola or Moxie was outlawed for apprentice seamen—and the order had teeth. We could no more put foot into a saloon than we could fly. (And there were no planes.)

We could, and did, amble over to Easton's Beach where, after leaving our whites in back of a sand dune, we would enjoy a dip in the surf. (This feat was usually accomplished by donning our swim trunks prior to going on liberty.)

Back at the station we maintained a full schedule every day. Our appearance improved as we dressed with a touch of pride. Stitching our floppy white hat brims was an asset. Fitting our oversized whites was an improvement. The barbers took their duties more seriously and cut away the husk and leveled off the trenches that we brought with us from Barracks "A."

We were standing erect and marching with distinction when in formation. We were gaining the knowledge that every apprentice seaman should have.

ONCE A WEEK there was a regimental review on the green in front of the War College. High brass from the facility and the elite from Newport society were the guests of honor. Occupying the spotlight, or an added attraction, was Ike Bernstein with his Seamen Guard. They

had developed a silent drill of precision movements that always drew unlimited applause from spectators.

In addition to training, which called for us to be quartered at station barracks, we also had at our disposal for brief periods three training ships.

First, the old *Constellation*, that venerable old frigate of Captain Truxton's day, which needs no introduction to thousands of apprentice seamen who crossed over her gangways during periods of indoctrination. But why we served on board her is somewhat of a mystery. Maybe it was to get the feel of a ship's deck underfoot. It might have been for the purpose of recognizing the odor of tar and rope on the topside and the musty smells below deck. But, whatever the reason, we were quartered aboard her for a week.

During this time we got our first lessons in holystoning. It was our first experience where chow was served between decks which were crowded and not too well vented. We had our first instructions in ship's etiquette and courtesies traditional to the Navy.

At first call for hammocks at night we lined up alongside the nettings facing aft until "pipe down," at which time hammock stowers would pass out our sacks and we would scramble down the hatches for the best billets below. And, lest I forget, I remember the daily working parties that we furnished for miscellaneous work around the docks. In other words, we fulfilled a statement of an old ship's chief at our first muster on board. He said, "You can forget drill for a week; you are here to work." And work we did.

OUR NEXT SHIPBOARD DUTY was in *Boxer*, a trim little brigantine

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built at Portsmouth Navy Yard and equipped for sailing only. She had an over-all length of 108 feet and a displacement of 346 tons. We had a "ball" aboard her during our stay, learning the duties of the stations assigned us.

Our itinerary did not carry us far. No whistling gales or raging seas disturbed us as *Boxer* pursued her daily schedule on the placid waters of Narragansett Bay. At night we would moor to a buoy off one of the islands. In the morning we would slip our mooring and sail again.

Each company had one week in *Boxer* and then on to *Cumberland*—the third and last training ship—which did not sail. *Cumberland*, which did not sail.

Our Tennessee and Kentucky recruits had long been itching to pull a trigger. Company commanders vied with each other in building up highest and best individual and company scores. Instructors on the firing line were careful and thorough as they prepared each of us for that first shot.

We fired. Looked eagerly at the target. Confirmed the effects of that first "squeeze" on the trigger and settled down for the match. To us, this was Camp Perry or its equal. We were just as proud. We fired the full course for pistol and rifle. Our sidearms were Colt .45 caliber with swing-out side ejector. Our rifles were old reliable "Kraggs," a little heavy, but good pieces—but that was yesteryear.

With the completion of small-arms practice, we had little to do but polish off the rough edges and get ready for a call to sea. Most of us wanted a battleship and that's what most of us got.

The Fleet was preparing for a trip to European waters. Draft calls came in and dug deep into the ranks of the trainees. Drafts went to every ship in the Fleet from the flagship *Connecticut* to the beef boats *Culgoa* and *Celtic* and that was finis to our training.

Many old-timers like to look back on the days when Newport Training Station was an important segment in our Navy. At the advent of World War I, the Navy mushroomed around a modest nucleus into a hard-fisted, tough, fighting organization. Some of us may be egotistical enough to credit much of that success to the finale of this discourse in which: "We Trained at Newport."

—R. R. Myers, EMC, USN(Ret.).



CAN DO—B. Munds, SN, (left) and S. Cheves, RM3, make use of shop.

Auto Hobby Shop Has Double Aim — Fun and Safety

Accident-free driving doesn't just depend on how safely you drive, but also what you drive. And if you're in the Long Beach area you can make sure that what you drive is safe by taking it to the Forces Afloat Auto Hobby Shop.

This well stocked shop is administered by the Commander, Mine Force U.S. Pacific Fleet, and supported by all the Pacific Fleet's type commands and the Long Beach Naval Station. During the past quarter, more than 3000 Navy men used the Auto Hobby Shop.

Located on the Long Beach Naval Station, it is available to all Navymen afloat or ashore in the area.

Trained Navy personnel from the sponsoring commands take turns helping with automotive problems, and they don't mind getting their hands greasy doing it. Currently lending a hand at the shop are: Chief Engineman L. W. Burke,

Petty Officer-in-Charge from COMINPAC; L. S. Stevens, EN1, CRUDESPAC Flag Allowance; E. M. Moore, EN1, USS *Hector* (AR 7); and J. O. Seaman, MM3, USS *Kearsarge* (CVS 33).

These men suggest that if you visit the Auto Hobby Shop, you will discover that tinkering is relaxing and an economical form of recreation. And there's no charge for the pride you have in having done a job yourself.

Safety, however, is perhaps the most important product of the Forces Afloat Auto Hobby Shop. Even the best driver is dependent on the mechanical condition of his car.

Whatever the job that needs to be done—including a major overhaul—it can be done quickly, economically and reliably at the Auto Hobby Shop. The tools, materials and guidance you may need are available.



AUTO HOBBY shop helps Long Beach Navymen keep their cars shipshape.



Training on a German DD

THE U.S. FLEET Training Group down in the Caribbean found duty flavored with a German accent as they recently squared away the crew of the Federal German Navy destroyer *Zerstorer 5* (D 179) with five weeks of shakedown training.

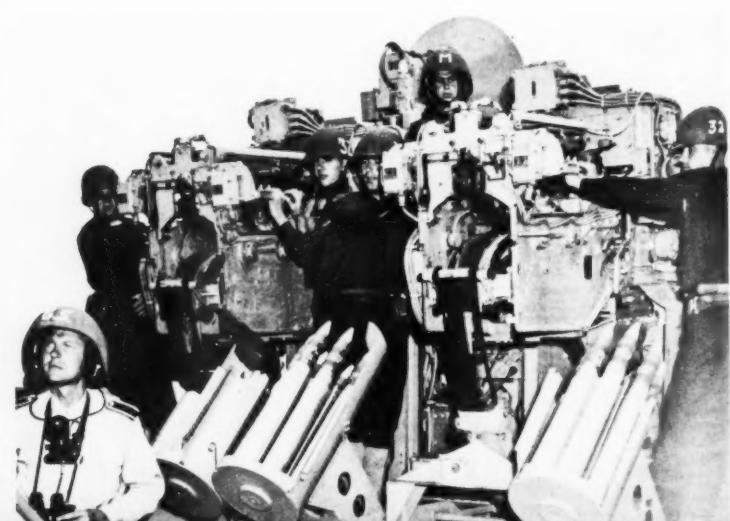
Zerstorer 5, the fourth German DD to train with the FTG, is the former USS *Dyson* (DD 572) which was modernized at Charleston Naval Shipyard prior to recommissioning and turning over to the German crew.

The shakedown training for the Deutschland sailors of *Zerstorer 5* was identical to that given United States destroyermen, consisting of vigorous and extensive exercises in all phases of DD operations. This included seamanship, gunnery, engineering, damage control and anti-submarine warfare. The climax of the training period was an operational

readiness inspection and a battle problem that included simulated bomb and missile damage to the ship.

After the shakedown training with the Fleet Training Group the German ship received type training with units of DesLant at Key West, Fla.

Upper left: Repair party learns how to make damaged scuttle watertight. Above: Main propulsion assistant of *Zerstorer 5* (D 179) asks questions of CWO V. L. Redding, USN, Fleet Training Group, during engineering problem. Left: DCs prepare to pump out 'flooded' compartment during battle damage problem. Left below: German gunnery officer observes crew's marksmanship, as gun crew (below) mans mount of former U.S. destroyer USS *Dyson* (DD 572), now sailing with the Federal German Navy.



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LETTERS TO THE EDITOR

Shore Duty, But Not in U.S.

SIR: I would like to know how I can go from sea duty to overseas shore duty. I have tried, but have ended up with a set of orders to San Diego.

I requested a billet in England, France, or Spain, where I feel certain there are billets for NWs.

When I filled out my Seavey card I was told that a stateside choice was mandatory. I chose Nevada, even though I didn't want shore duty. Is there any way that I can now avoid this involuntary tour of shore duty, and get my choice of overseas shore duty? —A.F., NWI, usn.

• *The Chief of Naval Personnel would like to give every man in the Navy his first choice of duty. Since the first consideration is the defense of our country, however, this is not always possible.*

Such is your case. As you no doubt realize, a nuclear weaponsman can be used at a very limited number of places. There are no overseas requirements for your rating at this time. Since there is a shortage of men with your qualifications, you must be used where the Navy needs you. That's why you were assigned a billet in the U.S. and not some place overseas of your own choosing.—ED.

Navy Publications

SIR: Where can I procure a fairly complete list of the naval publications issued by the various Navy bureaus and published by the Government Printing Office?

I receive the monthly lists issued by the Government Printing Office, but have found that they don't carry many of the publications I have come across in the Navy Department and Naval Academy libraries.

—K.S.Y., CAPT, U.S.A.

• *Your best bet would probably be NavSandA Publication 2002, which lists the publications available to naval ac-*

Three Cheers for the Black Gang

SIR: I have just finished reading the June 1960 issue of All Hands and was most happy with the back cover. It is an excellent tribute to the Black Gang, who stand long hours of watches in port and at sea, doing a job that is important and little recognized.—C.S.Q., CDR, usn.

• *We're glad to hear a good word for the Black Gang from someone besides ourselves. We've always maintained that, no matter how great the praise, it still isn't enough.—ED.*

This section is open to unofficial communications from within the naval service on matters of general interest. However, it is not intended to conflict in any way with Navy Regulations regarding the forwarding of official mail through channels, nor is it to substitute for the policy of obtaining information from local commands in all possible instances. Do not send postage or return envelopes. Sign full name and address. Address letter to Editor, ALL HANDS, Room 1809, Bureau of Naval Personnel, Navy Dept., Washington 25, D. C.

tivities through the Navy Supply System.

Not all the items listed here are sold by the Superintendent of Documents, Government Printing Office. However, this is the only single list that might fit your needs.—ED.

Navy Carpenters

SIR: "I believe the Navy should bring back the old carpenters rate." I have often said this to people I work with and they say, "Well, there is not enough carpenter work." Little do they know just how much carpenter work there is to do. I know for a fact that there is a whole lot more work in carpentry than in pattern making, yet there is a rate for pattern makers.

As long as there are trees there will be plenty of work for us carpenters. And besides, wood is not the only material with which we work. What about tile, linoleum, ceramic tile, cork, asbestos, plastic, formica, glass and screen? Not to mention boat repair which is a job in itself. A carpenter, for example, must be able to use a greater variety of machine tools than a machinist's mate.

The damage control rate is a very important part of the Navy's fighting team, but it shouldn't include carpentry. A man might well be able to build a beautiful accommodation ladder and incapable of calibrating a geiger counter. Another man might be a whiz in chemical warfare and wouldn't be able to drive a nail.—A.P.Z., DC1, usn.

• *A bit of the historical background that developed with the shifting of duties from the old Carpenter's Mate rating to that of Damage Controlman seems to be in order. It may give you some idea of the factors that enter into necessary rating structure changes as determined by the changing status of the Navy.*

The old rating of Carpenter's Mate was incorporated into the Damage Controlman rating as the emergency service rating of DCW (Damage Controlman, Carpenter's Mate) effective April 1948, in accordance with the post-war rating structure. At that time, the general service rating of DC was also made responsible for carpentry duties.

In February 1959, the Secretary of the Navy approved disestablishment of all the emergency service ratings of Damage Controlman, including that of Carpenter's Mate. However, the DC rating at that time was redesignated as a "general rating," and the carpentry duties were retained in the DC rating.

Change No. 14 to NatPers 18068 contains the qualifications for advancement in rating of the DC.

A search of the files shows no previous recommendations for taking carpentry out of the DC rating. However, if your convictions on this matter are so strong, you may, of course, submit a recommendation through channels to the Chief of Naval Personnel (Permanent Board for Review of the Enlisted Rating Structure) for consideration. Perhaps there will be other DCs who agree with you.—ED.

Transportation for Dependents

SIR: I am attached to a unit stationed at Keflavik, Iceland. I am married to an Icelandic girl, and our first permanent home is here in Iceland.

I am scheduled for transfer soon, and I understand that I should be authorized concurrent travel for my wife to my next duty station, Key West, Fla. If so, should I submit a claim for reimbursement for any commercial travel expense I incur if government transportation is not furnished my wife?—R.E.N., RM2, usn.

• *Transportation for your wife will be authorized. You will travel via available MATS transportation to McGuire AFB, N. J. Then you will be reimbursed on a mileage basis to your next duty station for travel within the United States, or T/R's could be furnished for travel within CONUS if you so desire. You should make application for your wife's travel through the CO of your unit.—ED.*

Time In Rate For Exams

SIR: I was advanced to storekeeper first class on 16 Dec 1959. Will I be eligible to take the examination for SKC in February 1962, and provided I make a high enough score, be advanced to CPO on 16 Jan 1963?—W.E.B., SK1, usn.

• *No. You will not be eligible to compete for advancement to SKC until February 1963. Current instructions state that the required time in rate (in your case, three years) must be completed on or before the terminal eligibility date, which is 16 May for the February exam.—ED.*

Career in Submarines

SIR: After reading in ALL HANDS recently about the important job FTs are doing in the new missile systems, I have become very interested in the submarine service. It appears to me that, over the long haul, submarine duty would be the best bet for me for a Navy career.

My question is: How can I, with one year of obligated service remaining on my first enlistment, get into the FBM program, and so be in a position to reap some benefits (service school, for instance) from reenlisting for a six-year hitch?—D.F.R., FTA3, USN.

- First, in order to be qualified for Polaris training leading to duty in an SSB(N) you must be a qualified submariner. Second, before becoming a qualified submariner, you must attend Submarine School. Third, to be eligible for Submarine School, you must have at least 24 months of obligated service remaining.

Our suggestion: Submit an application (NavPers 1339) for Basic Submarine School, and, if you are selected, extend your enlistment to give yourself the necessary obligated service. Then, after completion of school and service aboard a submarine until you became a qualified submariner, you could submit your request for Polaris training.—ED.

Who Is Mess President?

SIR: There is a difference of opinion aboard this ship as to who should be the mess president. Here's the background. Will you straighten us out?

One man made SKCS on 16 Dec 1959 and an SFCS made it on the same day. I maintain that rate precedence

Standard Sea Tours?

SIR: I was interested in the facts you published about Seavey in past articles. There is one thing, however, that I have always wondered about and which hasn't been made clear—uniform tours of sea duty.

I thought there was a uniform tour of sea duty (such as 18 months for PN3 and above), just as there is a set tour of shore duty.—E.L.R., PN1, USN.

- There is no standard sea-tour for any rating, and because the need for men both ashore and at sea varies, there are no plans to institute a uniform sea duty tour, except overseas, of course. A minimum of three years at sea is desirable, but for some ratings (clerical or administration), this is impossible.—ED.

doesn't enter into seniority and since both made E-8 on the same day, the determining factor would be who made E-7 first. The SKCS made E-7 in January 1944, went out of the Navy in May 1946, but went into the Naval Reserve. He returned to active duty in October 1950 and shipped regular in April 1959. The SFCS made E-7 some time in 1947 and has been on continuous active service.

Who's Mess President?—A.K., YNC, USN.

- The Senior Chief Shippfitter (SFCS) should be the Mess President.

Article 1817 of "U.S. Navy Regulations," as corrected by change number nine, states that the chief petty officer who is senior for military matters (as

described in Article C-2103, BuPers Manual) shall be the mess president. Since shipfitter ranks above an SK on the rating precedence list, the SF should be mess president.

Seniority for non-military matters, however, when continuous service in pay grade counts and not rating, is another story. The rules for precedence make no distinction between active and inactive duty in defining continuous service. If the SKCS has maintained continuous affiliation with the Navy, either in an active or inactive status, since 1944, he would take precedence for non-military matters.—ED.

Minimum Clothing Outfit

SIR: What is the minimum amount of clothing and uniform items that an enlisted man is supposed to have in his possession at a ship or station?—W.J.M., QM3, USN.

- In Chapter 7 of "Uniform Regs" you'll find listed the "minimum outfit of articles of uniform and accessories prescribed for enlisted men, other than chief petty officers, of the Regular Navy . . . The list read like this:

ITEM	QUANTITY
Belts:	
Black	1
White	1
Caps:	
Blue working	1
Service, blue	1
Watch	1
Clothes stops	3 pkg
Drawers	6 pr.
Gloves, black	1 pr.
Hat, white	4
Insignia	as required
Jacket, blue working	1
Jumpers:	
Blue, dress	1
Blue, undress	2
White, undress	4
Neckerchief	1
Peacoat	1
Raincoat, blue	1
Sea bag	1
Shirt, blue chambray	3
Shoes:	
Black, dress	2 pr.
Black service	1 pr.
Gymnasium	1 pr.
Socks, black	8 pr.
Sweater, blue	1
Towel, bath:	
Large	2
Small	2
(This small towel will be replaced by the large towel when present stocks are exhausted.)	
Trousers:	
Blue	3 pr.
Dungaree	3 pr.
White	4 pr.
Trunks, swim	1 pr.
Undershirt	6

Certain of these items are, at the discretion of the local CO, optional after



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completion of recruit training. These are: clothes stops, black service shoes, and gym shoes.—ED.

The Flying Hammers

Sir: I am an AME, and am curious as to whether the Uniform Board is considering adoption of some sort of device to differentiate between the three different specialty classifications within the AM rating.

If not, might I suggest that a single letter, sewed either under or above the "flying hammers," would suffice. Thus the letter "S" could indicate structural mechanic; "H" hydraulic mechanic; and "E" could represent emergency equipment mechanic.

Also, could you possibly clue us in on the advancement prospects for AMEs? Our rating is new, yet it has been "closed" compared to the other AM branches. Is the future outlook bright or gloomy for us?—R.H.O., AME3, USN.

• There are no plans afoot at the present time to establish separate distinguishing insignia for service ratings. AM is one of a number of Navy ratings which have separate service ratings at the lower pay grade levels, and a general rating at the higher levels.

As for your advancement opportunities, they have brightened considerably of late. In fact, they now are equal to those in the other AM service ratings. For instance an estimated 35 per cent to 70 per cent of those passing the third class PO exam the past August can expect to be advanced in all three AM service ratings. From 70 per cent to 100 per cent of those who passed the second class examination may expect advancement.—ED.

Sword at Inspection

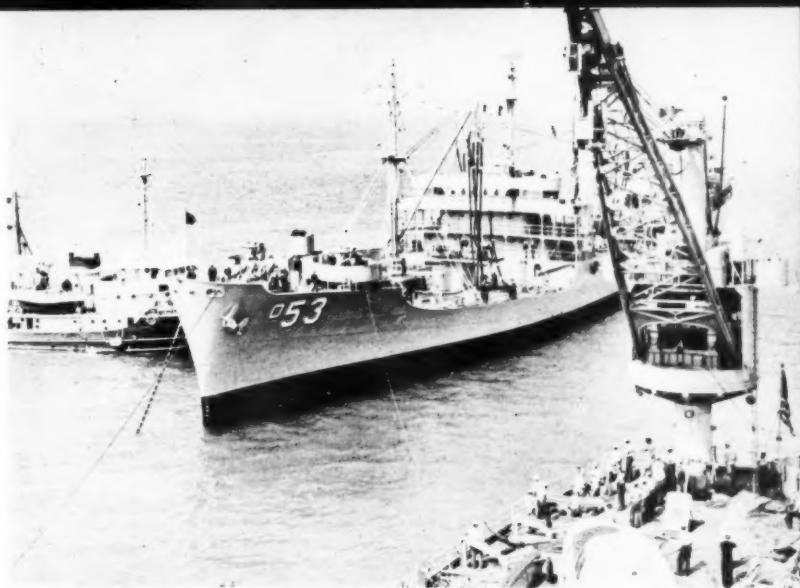
Sir: Since the sword has become standard equipment for all naval officers, I have seen them used in conflicting ways.

The one thing I am puzzled about, and I have been unable to find the answer, concerns a division officer commanding troops not under arms at an inspection or passing in review. Should the division officer draw and use his sword to give commands, or should he leave the sword in the scabbard?—LT G.M.R., USN.

• Leave it in the scabbard. When commanding unarmed troops, you should not draw your sword to give commands. Although this is not spelled out in the "Landing Party Manual," or in any other reference we know, Navy officers generally agree that this is the proper procedure.—ED.

Five Days, 1500 Landings

Sir: In the Today's Navy section of the May issue of All Hands, USS Hancock (CVA 19) claimed a record for number of jet landings made in one day. Their record of 245 and 260 jet landings in a



FILL 'ER UP—USS Caliente (AO 53) pumps aviation gasoline to seaplane tender USS Salisbury Sound (AV 13) for fueling patrol planes in the Far East.

single day operations are figures of which to be proud and possibly sets a record for their class carrier.

Aboard USS Midway (CVA 41) in the late spring of 1959 we too accomplished a landing mark or two that were accepted as routine for this ship. Possibly the most impressive was 1500 landings in five consecutive operating days. Our high marks for single-day, daylight jet landings were 413 and 437. We ran out of work one of these days and had to send to the beach for additional aircraft and added 50 prop landings to the 437 mark. The many touch-and-go landings that go with any carrier qualification phase were not

included in the landing totals.

These marks were established during daylight using pilots and aircraft from CVG-2 and VA-125. The number of 300 plus jet landing days were too numerous to count. One occurred on a Monday during a half day's operation.

I can't recall if coffee breaks were ordered during the days these marks were established, but I do remember we had our normal chow breaks and numerous cups of coffee.—LCDR E. L. Robinson, USN.

• We think this is some kind of touch-and-go record, but won't commit ourselves on how long it will stay.—ED.

IN THE NAVY NOW—John H. Huhn, left, and Alfred J. Cler, Jr., center, are sworn into the Navy after graduating from the Air Force Academy.





MIGHTY MITE—Guided missile destroyer USS *Gyatt* (DDG 1) cruises on the high seas, furnishing antiaircraft support with her *Terrier* guided missiles.

Princeton, Class of '06 and '07

SIR: I have written down some of my recollections of the Navy as I knew it in the early 1900s. Perhaps some of your younger readers will be interested in this account of a cruise in the third *USS Princeton*, and perhaps some of my old shipmates may be included in your audience. I'm hoping we can renew old acquaintances once again.

USS Princeton was a wooden ship, copper-sheathed below the water line. She was three masted—fore, main and mizzen—square-rigged on the fore and schooner-rigged on the main and mizzen. There were two staysails—one between foremast and main and one between main and mizzen—and there were three jibs—inner, outer and flying.

Her auxiliary power was steam, and she had one stack and one propeller. She was painted white on the hull and spar color on the superstructure.

Under the jib boom she carried a figurehead, as was usual at that time. This was the bust of a woman with flowing robes, all done in gold leaf.

Princeton's armament consisted of two 4-inch guns (one on the forecastle and one on the fantail) and several six-pounders on the gun deck.

The running lights used lard oil as fuel, and the ship carried the rate of a lamp-lighter, whose job it was to fill and care for the lamps—including the smoking lamp. Smoking was allowed only when this lamp was lit, and we could light our pipes, cigars and cigarettes from it.

The ship's over-all length was 140 feet. She had a crew of 134 officers and enlisted men, and her boats consisted

of one 28-foot steam launch, two 24-foot cutters and two 22-foot whaleboats.

The cruise I remember best began on 4 Jan 1906, when we sailed from Mare Island bound for Santa Barbara, where we met the cruiser *Chicago* and took aboard a couple of midshipmen. One of them was a Mr. Kinkaid, now Admiral Kinkaid, retired.

After a few days at Santa Barbara, we proceeded to San Diego. On the way down Chief Boatswain's Mate McDonald sent a new recruit to an equally new officer who was serving as OOD, with a request for the "key to the keelson." Officer of the Deck was in charge of all keys for the day, but not knowing anything about the "key to the keelson," he referred the recruit to the chief master at arms, who put a stop to the hoax.

We spent a short time in San Diego, then proceeded to Corinto, Nicaragua, and later moved on to Magdalena Bay, Mexico, where the ship's doctor quarantined the ship for three weeks because of a diphtheria scare on board.

We soon ran short of food, since we

Nuclear Weaponsman Switch

SIR: In your March 1960 issue (Page 30) you state that 24 months of obligated service is required to convert to the NW rating. BuPers Inst. 1440.18B says that 36 months is required. Which is right?—T. P. B., NW3, usn.

• *BuPers Inst. 1440.18B is correct. Wonder how long it will take the JO who did that story to change his rate?*—ED.

were away from our source of supply and had no refrigeration. So, there were no vegetables, no sugar and no flour. We did have a barrel of blackstrap molasses, which we used as a substitute for sugar, and we had plenty of rice, some eight-year-old tinned hardtack canned for the Spanish-American War and some tinned butter.

From Magdalena Bay we headed back for San Diego, where we arrived April 15th. On the morning of the 18th we received a wireless (spark and gap) that San Francisco had been damaged by an earthquake, so we were ordered to San Pedro to take on coal and supplies for the stricken city. At San Pedro all hands turned to, working from 11 p.m. to 4 a.m., to coal the ship and take on canned goods. All the decks were piled so high with supplies that we didn't even have room to swing our hammocks or set up the mess tables.

Princeton reached San Francisco the third day after the quake, and tied up just north of the Ferry Building. After the supplies had been unloaded the crew was put on guard duty along the waterfront, for the city was under martial law.

From San Francisco the ship went to Portland, Ore. There, the crew put on a minstrel show at the old Bungalow Theater, and we also did an act with a bulldog that had been picked up in San Francisco by "Dutch" Amacher and made mascot of the ship.

Then we moved on to Hoquiam, Wash., and from there to Blaine, where we had preliminary target practice. In it I broke the world record with a 4-inch gun, making four hits in 31 seconds.

For the Fourth of July we went to Anacortes, Wash., and afterward, on to Bremerton drydock for overhaul, during which our figurehead was completely refinished with gold leaf. (The estimate by some crew members was that it cost \$10,000! I don't know whether that was scuttlebutt or not.)

Upon completing our stay in drydock we sailed as far as Port Townsend, where we anchored to wait for clear weather before entering the Straits of Juan de Fuca between Washington and Vancouver. About five o'clock, the morning after we anchored, a large, square-rigged sailing ship being towed by a tug drifted across our bow, tearing off the bowsprit and our precious figurehead.

Our mascot, the bulldog, added to the excitement by barking like blazes, and the captain, F. H. Sherman, called out the gun crew to halt the "offender." However, no shots were exchanged.

After the accident, *Princeton* had to return to Bremerton for repairs. Because of the expense, it was decided not to replace her figurehead.

In September 1906 we headed for Mare Island to pick up additional ammunition and supplies. (Bremerton and San Francisco were the only supply depots on the West Coast at that time.) Then we went to San Diego for a two-

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week stay before returning to Magdalena Bay for target practice.

Gunnery competition was keen in those days, for there was prize money at stake. I won out over the other gun-pointers on the 4-inchers.

By beating the other ships in our class, Princeton's gun crew won the prize money. It amounted to eight dollars for the gun-pointers and smaller amounts for the others in the crew. (We didn't get the money, however, until almost a year later.)

From Magdalena Bay we went back to Mare Island, via San Diego. There we spent Christmas and New Year's Day.

In February Princeton headed for Bremerton again. On this cruise we encountered rough weather all the way to Cape Flattery.

We were using both our sails and steam, and had the misfortune to hit some flotsam, which broke a blade off our three-bladed propeller and shook the daylights out of the stern of the ship. It took us seven days to make Flattery, which we normally would have made in three days.

In the early spring of 1907 Princeton was decommissioned, and the crew was transferred to USS Nebraska, which we commissioned. Nebraska's captain had obtained permission from the Navy Department to recruit his full complement of some 600 men.

Meanwhile, Princeton was being completely overhauled. She lost her yards, which made her a schooner rig, and later in 1907 she was recommissioned and saw duty along the Pacific coast.

Later, she was taken to Guam where she was used as a station ship.

Those were the good old days.—Ray Denton, ex-USN.

• Thanks for a chance to cruise again in the old USS Princeton. There's nothing we could add to your interesting remarks about that fine old ship.—Ed.



Persian Gulf Certificate

SIR: The surveying ships USS *Tanner* (AGS 15) and *Requisite* (AGS 18) recently returned to CONUS after conducting nearly four months of extensive surveying and other oceanographic research work in the remote regions of the Persian Gulf.

An HU-2 Detachment and Marine Corps Coastal Survey Team 2-59 were also embarked in *Tanner*, while *Requisite*'s complement included a team of civilian researchers.

Enclosed is a copy of the commendation which was awarded to key personnel who, over and above their regular duties, contributed materially to the success of the survey season.

We hope it will be of interest to ALL HANDS readers.—G. E. D., CAP, USN

• Thanks. We'd be willing to bet that a sizable number of the crews of these two ships received one of these certificates. It's a fine way to give recognition for fine work.—Ed.

CT Is Critical Rating

SIR: I am a CTSN stationed in Kodiak, Alaska. I am interested in the new Postal Clerk rating and my local command has assured me they will approve my request to switch ratings when PC becomes officially established.

Has it become part of the rating structure yet, and if so, when will the first examinations for advancement in rating be held?—R.P., CTSN, USN.

• Postal Clerk (PC) was officially established by BuPers Inst. 1440.26 issued in June 1960. Unfortunately for you, however, a CT cannot change to PC. The CT rating, including strikers, is a critical rating, and the Navy cannot afford to take trained men out of the rating.

For non-designated strikers, or for those switching their rating, the first advancement examinations will be held in February 1961.—ED.

Three Holes-In-One

SIR: I enjoyed your article "A look at the Record by Sailor Sportsmen" which was published in the June issue. One of the reasons was, perhaps, because I too have been hitting the ball rather well at the local golf course lately.

In the past six months I have made three holes in one while playing on the Charleston Naval Base Golf Course. The first one occurred on the 155-yard 3rd hole on 13 Dec 1959; the second on the 107-yard 5th hole on 26 Mar 1960; and the third one on the 90-yard 14th hole on 15 June 1960.—J.E.C., Jr., SK2, USN.

• If these Holes-in-One were made on a golf course that has no more than five par three holes out of the 18, you may submit a request for a trophy to the Chief of Naval Personnel (attention Pers G 11). You must enclose certified copies of your official score card.

If the course is that good, we hope to get an opportunity to drop by.—ED.

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Ships Reunions

News of reunions of ships and organizations will be carried in this column from time to time. In planning a reunion, best results will be obtained by notifying the Editor, ALL HANDS Magazine, Room 1809, Bureau of Naval Personnel, Navy Department, Washington 25, D. C., four months in advance.

• **uss Arizona (BB 39)**—A memorial reunion will be held at the Lafayette Hotel, Long Beach, Calif., on 22 Apr 1961. For more information, write to Joe Keehen, 811 Locust Ave., Long Beach 13, Calif.

• **uss Santa Fe (CL 60)**—The 14th annual reunion will be held at the Statler-Hilton Hotel, Boston, Mass., on 1 October. For details, write to Fred-

erick C. Jaissle, 18 Cedar St., Hudson, Mass.

• **uss Ruticulus (AK 113)**—A reunion of officers and men who served on board during World War II is being planned. Write to A. B. Virkler Legate, 26 Wakefield St., Reading, Mass., for information.

• **uss San Diego (CL 53)**—A reunion of men who served on board in 1942 and 1943 is planned for September. Those interested may write to Dino M. Bini, 22 Caledonia Ave., Quincy 15, Mass.

• **uss Windsor (APA 55)**—All officers who served on board during World War II and are interested in a reunion may write to John T. Lamb, 3104 Poinciana Rd., Middletown, Ohio.

Underway Record, Sliced Up

SIR: The recent letters from numerous AGR's concerning steaming records and underway hours were interesting to the Naval personnel of this command. They, particularly *Scanner*, have every reason for their pride. However, for sea duty sliced into hours, percentages, or what have you, we believe they are all a bit over enthusiastic.

For calendar year 1959, Oceanographics Detachment in *usns Dutton* (T-AGS 22) logged 318 days underway for 87 per cent. For fiscal year 1959, the statistics were 84.4 per cent with a Christmas yard period responsible for the reduction.

The longest cruise was 47 days and shortest 21 days. Normal R & R port stays were from two to four days.

The detachment is permanently deployed. Home port is Norfolk, Va., which we have never visited. There are five plunkowners aboard at present.—LCDR J. W. Lee, USN.

• *Next claim?*—ED.

Colors of Memphis and Triton

SIR: More concerning Tennessee-Memphis (ALL HANDS, October 1959 and April 1960).

You may be interested to know there exists an organization made up of the survivors who were on board that fateful day, 29 Aug 1916, when *uss Memphis* was driven ashore in a storm and wrecked. We meet each year on the anniversary date of the disaster—in Philadelphia last year, Cleveland this summer, and Florida, probably, in 1961.

Captain Edward L. Beach, USN, Commanding Officer of *uss Triton*, SSR(N) 586, and the son of our old skipper, is Honorary Captain of our outfit. Whenever possible he attends our annual meetings.

Through our activities we believe that we contribute, in our small way, toward

perpetuating an ancient and honorable naval tradition—"Shipmates but once, and you're shipmates forever, bound by such ties that nothing may sever."

We are currently making plans to hold our 1966 meeting, the 50th anniversary of the loss of our ship, in Memphis, Tenn.—Robert J. Ganley, LT, USNR (Ret.)

• Sounds like a fine organization you've got there, Lieutenant. You will be interested to know that your Honorary Captain has brought further honor to the memory of your fine ship. We refer to the ship's log of *uss Triton*, which her skipper, Capt. Edward L. Beach, USN, kept during her historic 83-day submerged journey around the world. The log states:

"As Triton enters Thames River enroute to her berth in New London, we

Question on HHE and Travel

SIR: When I was transferred to *uss Lexington* (CVA 16), the Navy moved my family and household effects to San Diego, Calif., where my ship was home-ported. Since then, however, I have moved my family to the San Francisco area at my own expense.

When I receive permanent change of station orders, will the Navy move my household effects and pay a travel allowance for my dependents from San Francisco or will I have to move them back to San Diego?—D.M.L., EMI, USN.

• The Navy will move your household effects from San Francisco to your next duty station, but the government will only pay those costs which would have been allowed had the shipment been from San Diego. The same for travel allowance. The Navy will only pay up to the amount that would have been allowed from San Diego.—ED.

shall man the rail in traditional Navy style. That is, the members of the crew topside will be dressed in the uniform of the day and will form a solid line from bow to stern, thus creating, we hope, a sharp and military appearance. We are proud of our ship and want her to look her best, despite the scars from three months' contest with the elements.

"Flying from our highest periscope will be a rather old and slightly weather-beaten set of colors, and thereby hangs the very personal story which must now be told.

"In 1916 my father was Commanding Officer of the armored cruiser *Memphis* (ex-Tennessee) which, he used to say, was the most responsive ship, the best trained and the easiest handled, of any he had ever served in. On August 29th of that year, lying at anchor in the Harbor of Santo Domingo (now known as Cuidad Trujillo) of the Dominican Republic, Father noticed a heavy surf commencing to make up along the shore. A look to seaward brought him up with a start, and he ordered that the ship be made immediately ready to go to sea. Hurriedly he sent a message directing the baseball team, then due to return from practice, to stay ashore. Two of the three boats received the message and did indeed wait, but the third either did not see the signal or failed to understand it, for on it came.

"Forty minutes later, a tidal wave swept completely over the top of *Memphis*, swamped the bridge, inundated the entire topsides of the ship. *Memphis* had almost, but not quite, got steam to her engines. Her anchor chains (all three anchors, in desperation, were down) stretched, then snapped; she was swept from her berth, and within half an hour she crashed ashore in 12 feet of water.

"Father survived the catastrophe, although a number of people who were standing on the bridge with him were swept overboard and lost. Several were killed by flying debris below decks, or by burst steam lines, and he watched helplessly as the boat with the baseball party rolled over and over in the gigantic surf.

"Not long ago I received a letter from an ex-Navyman who wanted to know, since I bore the same name, if I were related to his old skipper in Memphis. I responded that I was indeed—and after some additional correspondence it developed that Stanley P. Moran of Wilmington, Delaware, had in his possession the ensign that flew over *Memphis* that disastrous day.

"Sam Worth, of Cleveland, Ohio, its present owner, had no idea why I suddenly had such need of his cherished flag, but he sent it to me special delivery immediately upon receipt of my urgent letter. Soon he and Stanley Moran will both know. For when *Triton* enters the Thames River on May 11 next, this same flag will be flying once again, probably for the last time, over a mighty United States man-of-war."—ED.

For Star Gazers Only

ON THE FOLLOWING PAGES you'll find a detailed, yet clear, chart of the major stars to be found in the northern and southern hemispheres. It's intended to help you, no matter where you may be, to bring some order out of the apparently chaotic multitude of stars about you.

If you are standing a watch on deck on a starry night and if you take a casual glance at the sky overhead you get the impression of a mad assortment of stars thrown together without pattern or reason. There are so many bright stars and faint stars, all mixed together, that it seems impossible to learn much about them without years of study.

Not true. It's relatively easy. If you take your time, you'll notice little groups of stars that form the design of a square, a diamond, a kite or a cross. If you're in the northern hemisphere, you'll find the Big Dipper without any strain at all. (Don't think for a moment that you're the first to notice the startling similarity between this group of stars and the common household utensil. Shortly after the first gourd was used for drinking purposes some thousands of years ago, an observant citizen noticed the parallel.)

Don't let the concept of the constellations bug you. As a new, and presumably objective observer, you may very well come to the conclusion that the imaginary names and figures are more confusing than helpful. There is one school of thought which is inclined to support your viewpoint. Nevertheless, let's bear with the romanticists and see what they have to offer.

These imaginary figures, as they are outlined on the next two pages, are the basis of legends and folklore throughout the world. Thousands of years ago, it was just as hard as it is today to point up to the

sky and expect to select a single star from the many which were visible. It was possible, however, to refer to the star next to the end of the tail of a bear when everyone knew the location of the hypothetical bear. Everyone in the local tribe recognized those groups of figures which were most familiar to them and these have been handed down to us.

Even before there was a written history, stories of great heroes and beautiful heroines were told by father to son, or by a group leader to his followers, as they sat around a camp fire. These legends grew more wonderful with each generation of retelling until the heroes became gods. The stories of these gods who battled the forces of evil and won the hearts of the beautiful maidens marked the beginnings of mythology.

As the tales of these adventurous gods became accepted fact in ancient life, the story tellers decided that the gods deserved suitable monuments in their honor, but nothing as perishable as monuments on earth could be satisfactory. However, when they looked up at the distant, mysterious stars, they knew that they had found a fitting memorial for their gods and heroes.

One group of stars they named for a great warrior, another they named for the maiden he rescued, still another for the sea monster that was going to destroy her. As time went on, these groups of stars which comprised a constellation became generally recognized and finally were incorporated as a part of early astronomical writings. The principal constellations of today are very similar to those accepted by the ancient Greeks before 300 B.C. (excepting, of course, the ones added later in the southern sky which could not be seen from Greece).

Thus, the constellations were created in the minds of the ancients for two reasons: To lend authenticity to their legends; to help in recognizing and remembering the stars.

One point to bear in mind—most of the constellations do not actually look like the objects or persons for which they are named, any more than a DD looks like the person for whom it was named. You might as well expect *Nautilus* to look like a cephalopod mollusk. Thus, when you see references to the constellation Leo, don't expect to see a picture of a lion in the sky. However, you can expect to see a group of 10 stars of varying magnitudes, grouped in one special way. That's Leo.

A bright, full moon will interfere with seeing the faint stars, so plan your star-gazing accordingly. As a beginner you will find the hour after sunset a good time to learn the major constellations and the brightest stars. Since many fainter stars will be hidden by the twilight, you can concentrate on the brighter stars with less chance of being confused. Because of the earth's rotation, new stars and constellations come into view in the eastern sky as the evening progresses. Thus, very late at night you may see stars which were not visible in the evening sky.

You need no equipment to see and study the thousands of stars—nothing more than your two eyes. However, later you may find your enjoyment enhanced by the use of field glasses (6 to 8 power). With these you can see the moons of the planet Jupiter, many fainter stars and nebulae and details of the moon. Larger field glasses (12, 15 or 18 power) will reveal finer lunar details and hundreds of interesting stellar objects. At powers greater than 10x, glasses must be steadied as you would a camera during long exposures.

DO-IT-YOURSELF STAR CHART

How to use these maps:

- Select the map corresponding to your location: northern sky if you are north of the equator, southern sky if you are south of it. If you happen to be close to the equator, you will want to use both.
- IF THE TIME IS CLOSE TO MIDNIGHT, LOCAL TIME,** turn the map around until the date is at the bottom. Only the months have been printed, but you can of course estimate the day of the month too—the black lines running to the pole of the map for example correspond roughly to the 20th of each month. If you

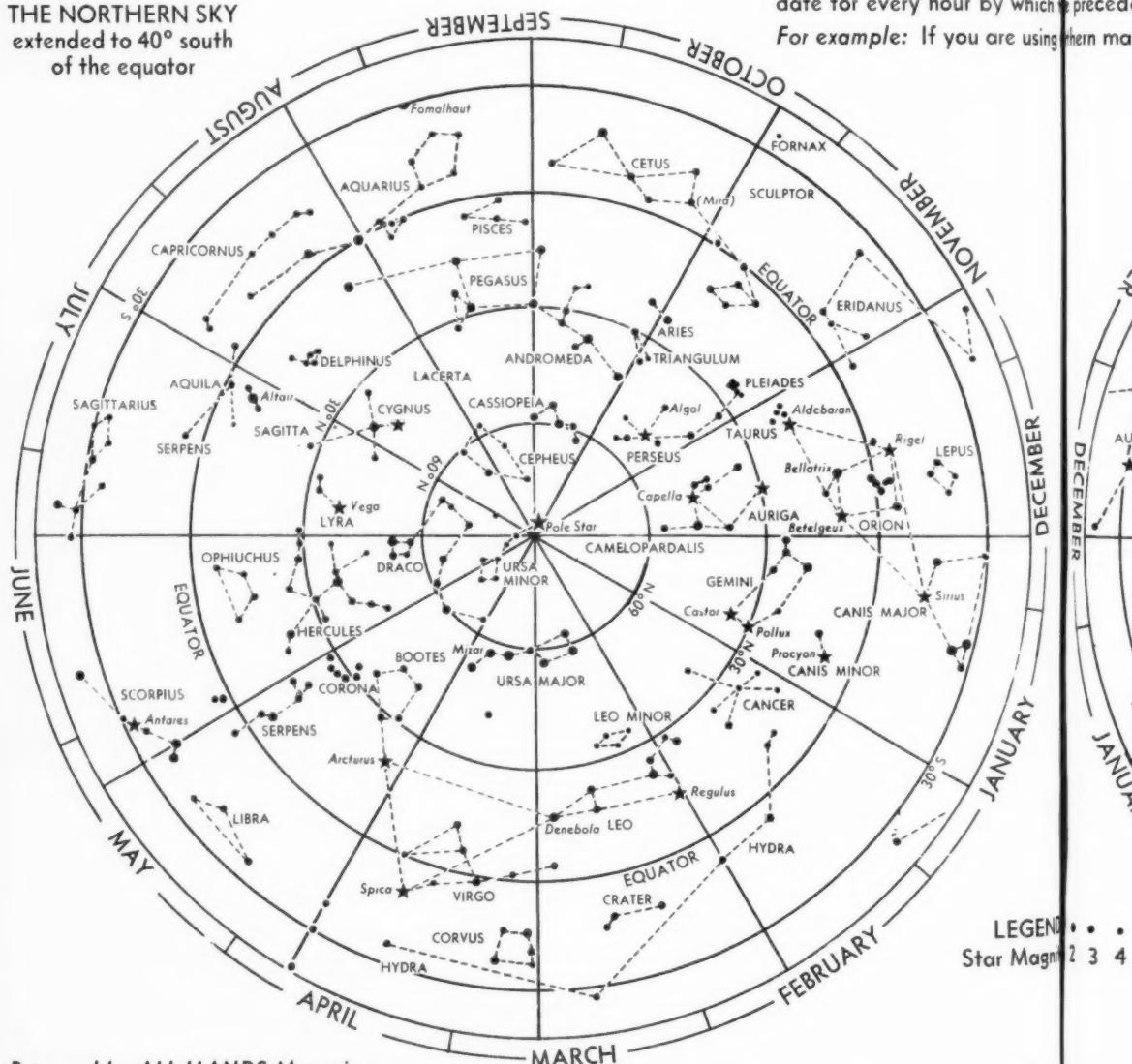
imagine a similar line drawn from pole to pole, your local meridian; and the stations on the line will be seen above the horizon (on the northern map) or the horizon (in the southern map).

For example: If you are using the northern map in June 10, you find that Hercules is high above the horizon at that time.

- IF THE LOCAL TIME IS BEFORE MIDNIGHT,** follow the procedure as in 2) but for a date month earlier than the date for every hour by which it precedes.

For example: If you are using the northern map in

THE NORTHERN SKY
extended to 40° south
of the equator



Prepared by ALL HANDS Magazine

MAP for Navymen Everywhere

awn from pole to the date, this will be
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use southern map at midnight on
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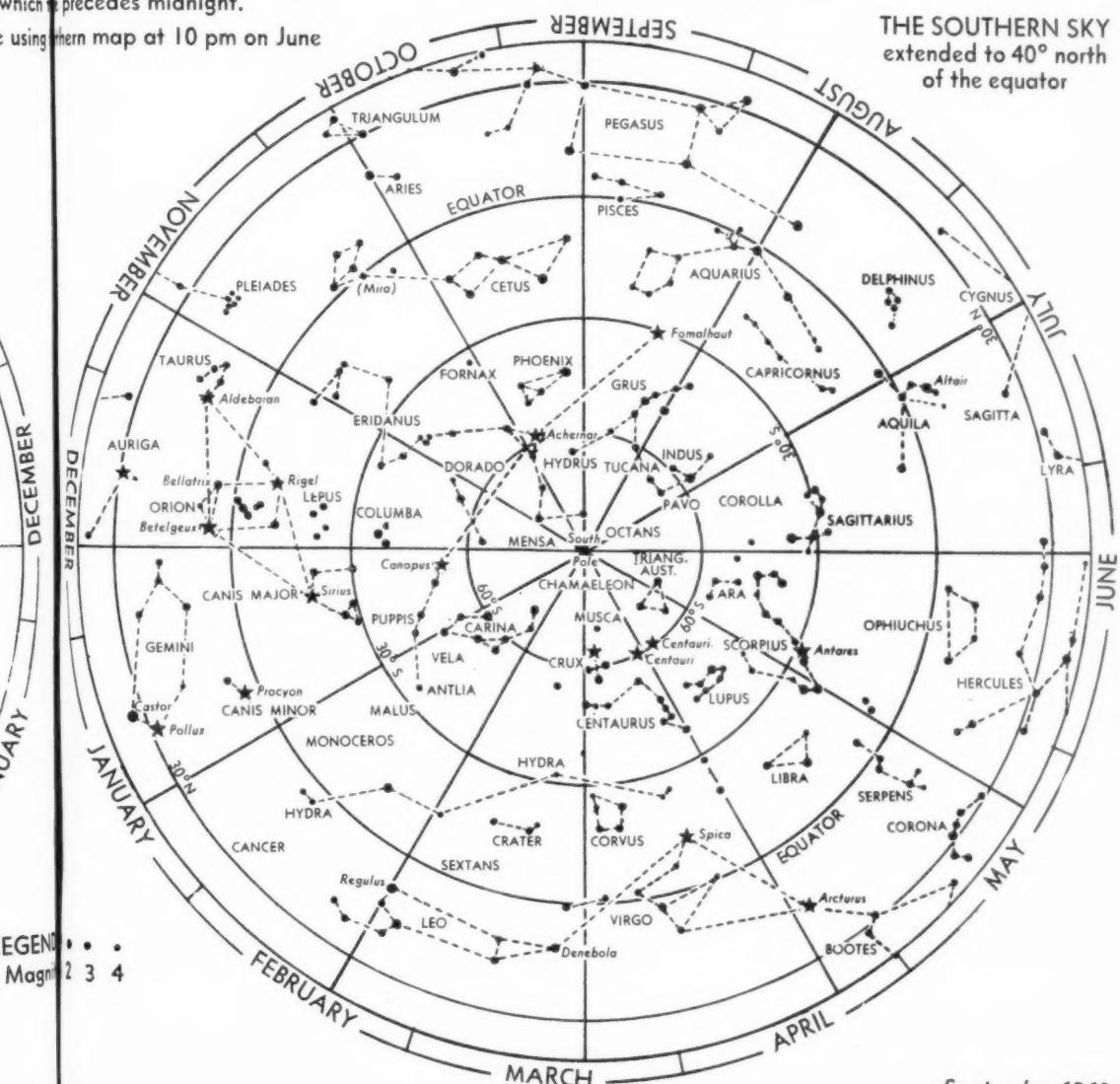
S BEFORE NIGHT, use the same pro-
a date month earlier than the actual
which precedes midnight.

use southern map at 10 pm on June

10, pretend that it is midnight on May 10 and proceed as above.
You find that Bootes is crossing the meridian.

4. IF THE LOCAL TIME IS AFTER MIDNIGHT, use the same pro-
cedure again, but for a date half a month later than the actual
date for every hour by which the time follows midnight.

For example: If you are using the northern map at 3 am on June
10, pretend that it is midnight on July 25 and proceed as above.
You find that Cygnus is crossing the meridian.



September 1960

TODAY'S NAVY



NEW STINGER — Navy's air-to-ground guided missile, *Bullpup*, is fired from a helicopter, demonstrating a new concept to support assault troops.

Undersea Fuel Storage

Testing of an undersea liquid storage tank is now underway in the Gulf of Mexico.

The tank consists of a 50,000-gallon rubber container sunk approximately 50 feet on the Gulf's seabed. While the prototype container is one of the largest ever built, it is regarded as only a segment of an undersea fuel system capable of serving as an emergency cache for Fleet ships. Full-scale storage containers would hold in the range of 25,000 barrels and several would be interconnected to a common header in actual operation.

If the idea works, the future below-the-waves warehouses would hold more than a million gallons of fuel, enough to supply several de-

stroyers and smaller Navy vessels.

The 50,000-gallon container is 22 feet wide and 70 feet long when empty. When filled it becomes 20 feet in width, 68 feet in depth. Equipped to receive and discharge liquids and capable of being joined with similar containers, the tank is held to the ocean floor by a tubular steel frame and nylon harness.

If the underwater storage system is successful, the concept could be adapted to establish fueling stations at various points for Fleet ships, submarines and aircraft. The undersea containers could also be used for the storage of gasoline, lubricating oil, crude oil at offshore oil operations and possibly fresh water and other liquids. "Wet storage" is now a possibility of the future.

YESTERDAY'S NAVY



On 4 Sep 1804 USS *Intrepid*, which had been converted into a fire-ship and convoyed into the harbor of Tripoli to destroy enemy shipping, blew up—killing 13 officers and enlisted men. On 7 Sep 1797 USS *Constellation* was launched at Baltimore, Md. On 10 Sep 1750 CAPT Nicholas Biddle, of Revolutionary War fame, was born in Philadelphia, Pa. On 15 Sep 1944 the Navy landed First Marine Division on Peleliu, Palau Islands, after "softening up" the island for several days. On 21 Sep 1859 USS *Portsmouth* captured the American slave ship *Emily* at Loango, Africa.

Bullpup Unleashed by Copters

Bullpup air-to-surface missiles have been successfully launched from helicopters.

The missile-helicopter combination has been undergoing tests at Patuxent River, using a Marine Corps HUS-1 helicopter.

Bullpup is a radio-controlled missile. It had previously been fired only from such fast planes as the A4D and the FJ-4B. It is used against tanks, pillboxes, airfield installations and bridges.

In recent tests *Bullpup* was fired while the helicopter hovered at 1500 feet. Seconds after the missile left the craft's side it splashed within inches of a target disk 10,000 yards out in Chesapeake Bay.

Pilots report no stability problems and missile control is no more difficult than from fixed-wing aircraft.

Once *Bullpup* is launched, the pilot guides it to the target by a switch on his control stick. The missile can be steered up, down or to either side during its flight. Flares in the aft section help the pilot keep the missile clearly in sight as it streaks toward the target.

Foreign Coins Put to Use

Not many of us have left a foreign country without some foreign money jingling in our pockets. Although some of this probably goes into a coin collection, there's always some that just lies around dormant.

Crew members of USS *Northampton* (CLC 1) realize this and have found a use for this heretofore unused and forgotten money. When the ship leaves a foreign country, it has become traditional for crew members to donate the money not going into coin collections to the Clarke Fund.

This fund benefits the Clarke School for the Deaf in Northampton, Mass.—the city after which the ship is named. The fund has been so successful that a USS *Northampton* Room was established at the school in June 1958.

The Clarke School, which was founded in 1889 with Alexander Graham Bell on its staff, emphasizes the oral method of teaching the deaf.

Since its foundation it has sent its specially trained teachers all over the world.

Three-Minute Missile Check

A *Terrier* or *Tartar* surface-to-air missile can be completely checked for malfunction in three minutes with automatic checkout equipment now being used by the Navy.

The equipment gives the operator a green light when all components in the missile are functioning properly or flashes a red light when the missile is faulty. The equipment also "fault isolates" or indicates the faulty missile component.

By making a few changes, the same basic test set can check out six different missiles in the *Terrier-Tartar* family.

The Navy is so impressed with this equipment that it has awarded a contract for continued production of the special electronic gear.

Look, Ma, I Can Spell

Now we have a machine that can learn to spell. A machine is now under development which can be trained to identify automatically patterns such as letters of the alphabet.

Known as the Mark I Perceptron, the machine is trained by placing a test pattern (which could be letters of the alphabet) in front of the Perceptron's photoelectric cell eye. When the machine incorrectly identifies a pattern or letter, the trainer forces it to respond correctly by means of an electrical control. When the training is completed, the letters of the particular type face can then be shown to the machine's eye, and



SPEEDSTER—Nuclear-powered *USS Scorpion*, SS(N) 589, returns from sea trials. She is a sister ship to Navy's fastest sub, *USS Skipjack*, SS(N) 585.

it will correctly identify the letters without error. When the recognition problem has been complicated by adding letters of a different type face, the machine has been correct 85 per cent of the time.

The Perceptron does not recognize forms by matching them against an inventory of stored images or by performing a mathematical analysis of characteristics. The Perceptron's recognition is in the form of altered "pathways" through the system.

It is expected that the Perceptron will be useful in the processing of non-numerical information for the solution of scientific, engineering and military problems. Although human beings can normally handle such

problems, this type of machine would have obvious uses.

Scientists engaged in the Perceptron program foresee machines much larger than the Mark I and with much greater capacity. Such future machines could be used to read print of various type faces and to recognize spoken words. They could extract salient features from photographic information.

There are a number of scientific approaches to the research involved. This research is currently being pursued at a number of academic, industrial and government organizations. Perceptron is under development for the Office of Naval Research and the Air Force.

ALL TOGETHER—*USS Frontier* (AD 25) takes care of her nest of DDs from Squadron 19 at Long Beach, Calif.





POW—USS *Tullibee*, SS(N) 597, gets a champagne bath during christening ceremonies for new submarine.

News of Navy Ships

Just in case you haven't heard:

- **uss Topeka** (CLG 8) has been recommissioned after conversion to enable her to carry the *Terrier* anti-aircraft missile. The Navy's fifth guided missile cruiser in commission, she will home-port in Long Beach, Calif.
- In addition, two more guided missile frigates *Dahlgren* (DLG 12) and *William V. Pratt* (DLG 13) were launched at the Philadelphia Naval Shipyard. Both are scheduled for completion in 1961.
- **uss George Clymer** (APA 27) played host to 39 blind children when the ship visited Hong Kong earlier this year.

• Amphibious Force flagship **uss Eldorado** (AGC 11) headed a force of Navy visitors to Australian ports during the 18th anniversary of the Battle of Coral Sea. Others were **uss Canberra** (CAG 2), **Helena** (CA 75), **Hassayampa** (AO 145), **Jenkins** (DDE 447), **Walker** (DDE 517) and **O'Bannon** (DDE 450).

• Another nuclear-powered submarine—**Tullibee**, SS(N) 597, has been launched at New London.

• **uss Bon Homme Richard** (CVA 31) accompanied by the destroyers **Morton** (DD 948) and **Hamner** (DD 718) paid a six-day good-will visit to Bombay, India.

• Donald A. Tilton, ABC, from the Naval Air Technical Training Unit, Philadelphia, Pa., was named winner in the first annual Naval Air Technical Training Command's

"Schoolmaster Competition."

• Atlantic Fleet destroyers **uss Ault** (DD 698) and **John W. Weeks** (DD 701) made the first operational visits to the Black Sea since World War II.

• Captain Hawley Russell, Commander CAG 12, landed his F9F-8T jet on the flight deck of **uss Bennington** (CVS 20) to make the carrier's 57,000th landing since commissioning in 1944.

• Auckland, New Zealand, was the first foreign port of call for **uss Halibut**, SSC(N) 587, commissioned last January.

'Eyes' for Frogmen

A completely transistorized sonar system, powered by standard flashlight batteries, has been developed to give Navy frogmen "eyes" underwater.

Used to detect submerged objects, the new sonar is particularly valuable to divers and underwater demolition teams operating in dark waters where visibility is zero.

The 20-pound sphere, slightly larger than a basketball, has an aluminum casing and is a cubic foot in volume. Grips at the side are held by the diver, permitting easy maneuverability and control. Ear

phones provide the user with audio information detected by sonar.

PhibRons on the Move

uss Pocono (AGC 16) and other ships in Amphibious Squadron Eight have returned to Norfolk, Va., after several months with the U.S. Sixth Fleet in the Mediterranean.

Among the returning ships are **uss Oglethorpe** (AKA 100), **Cambria** (APA 36), **Donner** (LSD 20), **San Marcos** (LSD 25), **Terrebonne Parish** (LST 1156), **Suffolk County** (LST 1173), and **York County** (LST 1175).

Relieving these ships in the Mediterranean was Amphibious Squadron Two. The ships in this group include **uss Mt. McKinley** (flagship) (AGC 7), **Chilton** (APA 38), **Thuban** (AKA 19), **Vermilion** (AKA 107), **Rushmore** (LSD 14), **Plymouth Rock** (LSD 29), **Traverse County** (LST 1160), **Wood County** (LST 1178), and **Wahkiakum County** (LST 1162).

En route to the Sixth Fleet, some ships loaded men and equipment of the First Battalion, 8th Marines, at Morehead City, N.C., and **Wahkiakum County** stopped at Davisville, R.I., to load construction battalion equipment and personnel.



FIRST BATH—Navy's new nuclear-powered submarine, **uss Tullibee**, SS(N) 597, designed primarily to seek out enemy submarines, slides into the water.

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Touchdowns for RATCC

When an R5D transport, with CDR Richard L. Shafer, USN, at the controls, glided in for a landing at NAS Corpus Christi recently, it was something more than a routine touchdown.

The smooth (as usual) landing was the 130,000th accomplished under the direction of the Radar Air Traffic Control Center Unit 16.

RATCC-16 ranks second in the Navy only to NAS Moffett Field in total number of ground-controlled approaches completed. The Moffett Field installation, in operation since WW II days, had completed just under 135,000 approaches as of 1 June of this year.

Since its commissioning in 1948, when it was known as GCA-16, the air traffic control center has averaged about 30 ground-control approaches a day, or some 10,833 per year, in racking up its huge total.

A veteran Navy air controlman, James M. Jackson, AC1, USN, who has completed more than 6000 GCA runs in his nine years as a controller, acted as radar controller during the landing. Later, he and CDR Shafer collaborated at cake-cutting ceremonies marking the occasion.

Blast Off

In future emergencies a new nautical phrase may be shouted from the bridge of Navy ships. Instead of "Cast off," it may well be "Blast off," if a new device lives up to performance expectations.

The gadget, called a "shaped charge cutter" or explosion kit, consists of a small explosive charge that fits snugly around anchor chain or steel mooring cable. On electrical command it explodes, cuts the chain or cable, and allows rapid departure of ships.

Shaped charges that will cut along straight lines or follow the contours of irregular surfaces have also been developed. Such techniques have been useful for separating missile stages and destroying missiles.

Intruder, New Attack Bomber

A new low-level attack bomber, the A2F-1 *Intruder*, has been unveiled at Calverton, N.Y. It is the Navy's first such plane able to deliver nuclear or conventional weapons on targets completely hidden by weather or darkness.

The subsonic attack plane has sensitive radar and detection equip-



NEW AND IMPROVED — Beeman Recreation Center at Pearl Harbor submarine base has been remodeled with new features to please Navymen.

Here's a Good Place to Relax

Beeman's Recreation Center at the Submarine Base, Pearl Harbor, is now more popular than ever among Navymen seeking relaxation, comfort and entertainment.

About 80 per cent of the center has been remodeled, in a job which took over two months to complete. Now the place not only looks better, but also sounds better.

To put the Navymen in the proper mood, taped background music is played from the moment the doors open until closing time. The music can be piped into certain areas, or it can be sent throughout the building. A new public address system has also been added to the center's communication system.

Another new feature is a game room where shuffleboard, pinball, bowling and such are available. In addition, there's an acey-deucy and

beer bar with new furniture, a television room that's been expanded to hold about three times as many patrons as it did before, and a completely new cafeteria where hot meals and fountain service can be had.

Thursday through Sunday nights are dance nights at the club, with local bands providing music and entertainment. Beeman's dance floor can now accommodate 200 couples, and its new stage will now hold a 16-piece band.

Every Friday night a western band plays request numbers.

Over the dance floor is an aluminum sliding roof, which can be opened in good weather or closed when the weather gets bad.

Already well known to Pacific Fleet personnel, Beeman's now promises to become even more famous among Navymen.

ment which makes it ideal for close-support missions at night or in bad weather. It can fly long distances to deliver a nuclear haymaker, and can carry greater and more varied loads than any other naval attack aircraft in existence today.

A pilot of the *Intruder* can "see" the ground and air below and in front of the aircraft on two viewing screens inside the plane. Also in the A2F-1 is DIANE, a Digital Integrated Attack Navigation System designed to free the pilot from details which can be performed automatically. Acting upon information

provided by his integrated display system, the pilot can pre-select an automatic course of action which would allow the *Intruder* to approach its target, discharge its weapon, and leave the target area. Should the tactical situation require it, the pilot can change the plan.

The *Intruder* has a tilting tailpipe which provides additional lift for take-offs when dropped into the tilt position. This innovation gives the plane excellent short field take-off capabilities.

The swept-wing aircraft is powered by two turbojet engines.

Battle-Training for Polaris Submariners

The Navy's Submarine School at New London, Conn., is getting a new training facility which will electronically simulate full-scale battles involving *Polaris*-launching and other nuclear type submarines.

Using a giant computer and advanced electronic techniques, the training center will train the crews of nuclear submarines in the tactics of modern undersea warfare.

The attack centers of three different types of nuclear submarines, duplicated to the minutest detail, will be located within this new facility. Radar and sonar screens at the command posts of the submarines will show the maneuverings of many ships in the complex movements of undersea operations.

Periscopes for each sub trainer will simulate the view of targets on the surrounding horizon as seen from the periscope of a submerged submarine. The targets will appear in color at the correct relative bearing and at a size proportional to the range.

Each target, actually a tiny model on a mock sea viewed by closed-circuit television, will be automatically positioned to present the

correct aspect to the periscope, its height above the horizon being in keeping with its simulated distance from the periscope.

In addition to the simulated submarines, the training facility will have a Master Instructor's Console where realistic training problems can be presented to evaluate new tactics and submarine crew performance.

While instructors and sub commanders match wits, the encounter will be projected on a giant screen in a War Game Room where all phases of the action will be monitored.

Heart of the entire nuclear submarine training system will be a large-scale digital data processing computer, which will make the large number of computations required to control the electronic war games and interrelate the movements of ships, the performance of the simulated subs, directions from the instructor consoles, and information display in the War Game Room.

The computer also will calculate the action of the various weapons. In the case of a homing torpedo,

for example, the computer will simulate the search and attack of the torpedo homing onto its target.

The new nuclear submarine training facility will occupy an entire wing of a three-story building at the Submarine School at New London. It will offer three phases of training to the crews of *Polaris*-armed and other nuclear submarines. This training includes:

- A war-game type of operation designed to train senior command and staff officers in coordination of submarine striking groups and their air and surface support, and provide a system for use in developing tactics.

- A multiple attack teacher, simulating three submarines, for training the members of a submarine striking group in coordinated attacks and in coordinated self-defense, using new submarine weapons such as *Subroc* and *Astor* as well as the Navy's conventional torpedoes.

- The full capability of an individual attack teacher, to train the approach crew of a nuclear submarine how to make deliberate attacks on particular targets.

Plug for Proteus

Back in commission is *USS Proteus* (AS 19) the Navy's largest submarine tender, and the first designed to service Fleet ballistic missile submarines (SSBNs). *Proteus*, a World War II, *Fulton*-class sub tender, had been taken from the mothball Fleet early last year for a re-outfitting.

It was a big job and one which presented some tricky drydocking and engineering problems—problems that were overcome with novel but satisfactory solutions. Simple conversion was not enough. Quite a bit more space was needed. Specifications called for a 500-ton addition amidships: 44 feet long, 73 feet at the beam and six decks high.

A logical approach so it would seem, would have been to build the section as a separate "plug," float it into position on one of the sections of the cut-in-two *Proteus* and move the other section into position. Then join all three together.

However, that approach was discarded. The plug did not lend itself to launching; further, the method

would have presented additional ship-lifting and lofting problems.

The solution was to slice through the ship in drydock, seal the after end and flood the forward end. Then, to float the after end 44 feet down the ways and build the 44-foot section in place in drydock.

Workers sliced through the hull in two days, overcoming problems of weight, size and unsymmetrical distribution of mass. Next they refloated and aligned the segments. And then the plug was completed.

Then came the big problem—that of joining the pieces. Though not normally a problem in ship construction, the expansion and contraction of the hull with a 30-degree temperature change every 24 hours here presented a tough problem. Normally the expansion and contraction of the hull is dissipated in the free movement of the smaller piece just joined. Not so in the case of *Proteus*. Here two large pieces of hull, when finally linked at the closing gap, would push inward and pull outward more than one inch—and with such force as to tear out large

amounts of welding from the ship.

The problem was met with a two-way attack. Water was piped over the hull surface; the exposed deck areas were painted white to reflect heat. Calculations showed that almost 1/10 of the welding needed to close the gap would have to be done in four hours to gain enough grip to withstand the tear-apart stress. The welding job was so done.

Some 44 days after the slicing through of *Proteus* the mass welding was completed. Work after that became mere routine.

Two days before her recommissioning, *Proteus* underwent her INSURV sea trials. Manned by her entire crew and coated over with new paint, the ship was put through her paces. The trials showed that there were no major deficiencies to prevent her from taking station later in the year. On station she will service and repair the *Polaris*-firing SSBNs. She will also carry stocks of the missile itself.

"*Proteus*" is a name out of mythology—that of a prophetic sea god.

—Tom Steward, PH1, USN.

Perry FRAMed

USS *Perry* (DD 844), first World War II-built ship renovated under the FRAM Mark I program, has rejoined the Fleet.

Crammed with new detection and communications devices, and armed with new long-range sub-killer weapons, she'll be a potent addition to the Navy's antisubmarine warfare program.

Perry is the first of more than 100 destroyer-type ships which will gain extra years of life and efficiency through the FRAM project. FRAM (Fleet Rehabilitation and Modernization) is aimed at supplementing new ship construction by prolonging the useful life of WW II-vintage ships.

Mark I treatment given *Perry* (much more extensive than the Mark II type the majority of the ships will receive) will add at least eight years to her seagoing life, at a cost of some eight and a half million dollars.

Perry entered Boston Naval Shipyard in a reduced operating status in May 1959. She was stripped of much of her superstructure, and her engineering plant and systems were rebuilt or thoroughly rehabilitated.

She was given a new look topside with the installation of the advanced detection gear and new weapons mentioned earlier. These included long-range sonar, improved radar,



NEW LOOK — This A2F-1 is Navy's first low-level attack bombers that can deliver nuclear or conventional payload in any weather, day or night.

ASROC (Antisubmarine Rocket) and Dash (drone antisubmarine helicopter) which will make it possible for *Perry* to attack targets at extended ranges, eliminating the necessity of closing with a hostile submarine before attacking it.

Perry was recommissioned earlier this year and underwent refresher training in the Caribbean. She will be home-ported at Key West, Fla.

Laulima Aumoku Kaua

Not all emblems and insignia belong to fighter squadrons, warships and other front-line ships.

Now proudly wearing their own badge of honor are 25 ships—three

gasoline tankers, eight salvage ships, one auxiliary ocean tug, 11 Fleet ocean tugs, one tank landing ship and one surveying ship—which make up Service Group, Pearl.

The Pacific Service Force ships decided nearly a year ago to help promote morale and create a better sense of unity by adopting an emblem uniquely their own. They started with only one pre-fixed idea—since the entire group is Pearl Harbor-based, their shield must be symbolic of Hawaii.

This posed some problems. The Hawaiian language is lengthy and drawn-out. Much careful research later, the final selection contained the words "Laulima Aumoku Kaua." In Hawaiian those words have the literal meaning "We humbly serve the warships." In English they translate to the proud slogan "We serve the Fleet."

Running across the shield on a 45-degree angle, this motto separates a seahorse on the left from a Hawaiian chieftain's helmet on the right. Above the shield are the words "Service Group Pearl" on a ribbon entwining the trident of King Neptune. An anchor extends from the bottom.

First ship of the group to display the brand-new coat-of-arms to the Fleet was the ocean tug USS *Arikara* (ATF 98.) It was painted on her superstructure just before her departure from Pearl Harbor on her latest tour of duty in the Western Pacific.

The other 24 ships of the group are displaying their emblem in slightly different fashion. A copy of the shield was taken to a Honolulu merchant, where three-foot by four-foot decals were made. Those decals have been given an aluminum backing, and attached to the ships' superstructures.



INITIATION — Terry D. Murray, making his first summer cruise with NROTC from Ohio State University, loads baggage on an aircraft carrier.

SERVICESCOPE

Brief news items about other branches of the armed services.

THE ARMY'S LACROSSE GUIDED MISSILE underwent a series of cold weather tests during the past two months at Fort Churchill, Manitoba, Canada.

The firings were held to demonstrate the field operation of the *Lacrosse* under Arctic conditions.

Lacrosse is a surface-to-surface field missile capable of carrying conventional or nuclear warheads. Test missiles fired in Canada were not fitted with atomic warheads.

Selected U.S. Army and Canadian personnel, some of whom trained at U.S. Army missile training establishments, conducted the trials on a joint basis.

The Canadian portion of the test team was made up of 25 members of the Royal Canadian Artillery and Royal Canadian Electrical and Mechanical Engineers. The U.S. team consisted of 28 misslemen from the U.S. Army Air Defense Center at Fort Bliss, Tex.

* * *

LITTLE ROCK AIR FORCE BASE in Arkansas will be this country's eighth support base for a *Titan* ICBM missile complex.

This new missile facility, manned by a total of about 1200 persons, will support 18 underground launch sites.

Titan support bases previously announced include Lowry AFB, Colo.; Davis-Monthan AFB, Ariz.; McConnell AFB, Kan.; Ellsworth AFB, S.D.; Mountain Home AFB, Idaho; Larson AFB, Wash.; and Beale AFB, Calif.

In addition to Little Rock, the first three AF Bases listed above will each support 18 missile launch sites, while the others will support nine each.

* * *

A LAND NAVIGATION SYSTEM that will keep vehicles on course when traveling over the Arctic, desert, or jungle is under development by the Army Engineer Corps.

The system consists of four lightweight units that provide constant heading and position information.

The units include a gyrocompass, an analog computer, a distance data transmitter and a power supply,



GOING MY WAY—USAF C-124 opens to fly new Army amphibious armored personnel carrier to testing area.

having a combined weight of only 85 pounds. The units can be mounted in almost any vehicle.

Tests have shown that the system has an over-all accuracy of one-half per cent or 1/200 of the distance travelled. Service testing of the system is expected to be completed next year, and it probably will be available for troop use in 1961.

* * *

A FULLY AUTOMATED COMMUNICATIONS SYSTEM, linking United States Air Force bases throughout the world, became a reality with the dedication of an automatic communications relay center at Siegelbach, Germany.

The center at Siegelbach, Germany, completes the nucleus of a "switching complex" that serves some 5,000,000 miles of Air Force circuits. Other overseas switching centers are in Hawaii, Japan, England and Spain. Throughout the network, messages will be transmitted between centers at the rate of 100 words per minute and within the switching centers at the rate of 200 words per minute. Five switching centers are leased from commercial facilities in the U. S.

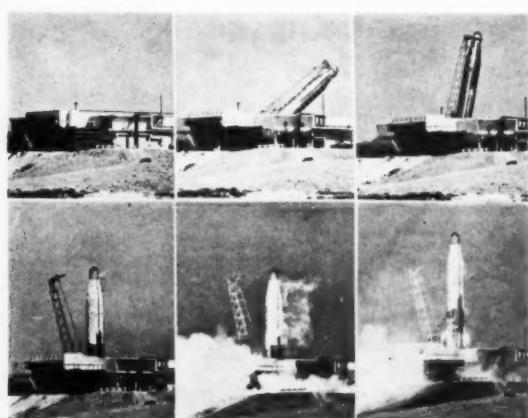
The system is so designed that it is fully compatible with the communications systems of the Departments of the Army and Navy; that is, a message from Army or Navy stations can flow freely through these switching centers without manual processing.

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A PORTABLE MISSILE SERVICE STRUCTURE that is 151 feet tall has been developed by the Army for servicing missiles of the *Redstone* and *Jupiter* classes, or any other missile up to 136 feet tall.

Until now, missile towers were either fixed or rail-mounted. This new, pneumatic tire-mounted structure weighs 350,000 pounds and is carried on two, six-wheel trailers. The outboard, rearmost wheels are driven by an electric motor. The front wheels are steered by hydraulically operated cylinders controlled by an electric sensing device running on a steering track.

When in position, two crane hooks operating from a "hammer-head" on top of the mobile tower, pick up



UNDERCOVER—USAF *Atlas* rises from underground pad to start 5000-mile trip down Pacific Missile Range.

the missiles and set them in their launchers. Jack pads are lowered and the structure remains off its tires until the time for roll back.

The tower has six adjustable platforms (for use by engineers and scientists preparing a missile for flight), two elevators and a complete intercom system. It also has a "panic button" designed for use at the most critical moment of missile fueling. In the event of an emergency, a push of the button automatically slides the platform back from the missile, lifts the jacks off the ground and wheels the tower itself away from the danger area.

* * *

AN ATLAS ICBM has been fired by the Air Force more than one-third the distance around the world. Its 9000-mile flight—which began at Cape Canaveral, Fla., and ended 'on target' in the Indian Ocean off the southeastern tip of Africa—was the world's longest missile flight.

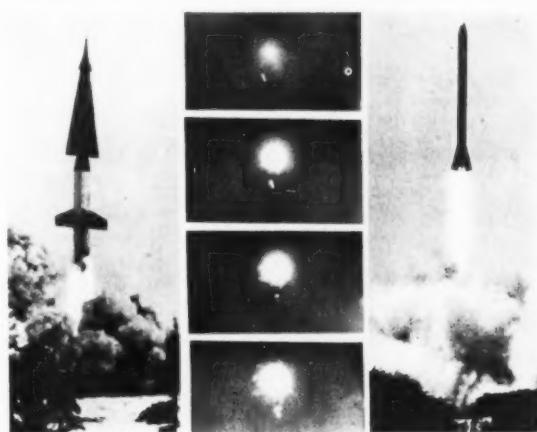
The *Atlas* intercontinental ballistic missile is operational in the Strategic Air Command.

This record flight was scheduled to obtain data on reentry at increased velocities resulting from longer range flights. Preliminary telemetry data indicates that the test objectives were achieved.

The trajectory of this long-range flight was carefully plotted entirely over water between South America and the Cape of Good Hope. Its apogee (point of greatest distance from earth) was approximately 1000 miles. No attempt was made to recover the unarmed Mark III operational type nose cone.

Ships and aircraft were stationed in the impact area to obtain telemetry from the missile. The observer ships and C-54 aircraft also performed range safety surveillance patrols over a wide area surrounding the impact point in the same manner that safety procedures and precautions were carried out for past open ocean missile launches over the Atlantic Missile Range. The impact area was outside shipping lanes and extreme safety measures were taken to assure that the area was clear before launching.

The *Atlas* which made the world's longest missile



MISSILE'S MISSILE—Army's improved Nike Hercules (left) takes off and intercepts Corporal ballistic missile (rt.).

flight was the 51st launched to date. It carried approximately 1000 pounds of normal research and development instrumentation during its 52½ minute flight.

Including this record breaking launch, 32 *Atlas* missiles have made successful flights, eight have been partially successful and 11 have failed.

* * *

AMID-CONTINENT LINK in the Army's world-wide communications network has been placed in operation at Fort Leavenworth, Kans.

It is the second and largest of three relay stations scheduled to go into service in the continental U. S. The first, at Davis, Calif., began operation in 1956, and the third is being completed at Fort Detrick, Md.

The Army's newest and most modern strategic communications center—the strategic gateway to overseas commands—is capable of handling 200,000 messages a day. With the latest developments in modern communications equipment available, the \$10 million Midwest Relay Station uses completely automatic message switching instead of the manual tape relay method. This permits receiving, processing and retransmittal of messages through the station without human intervention.

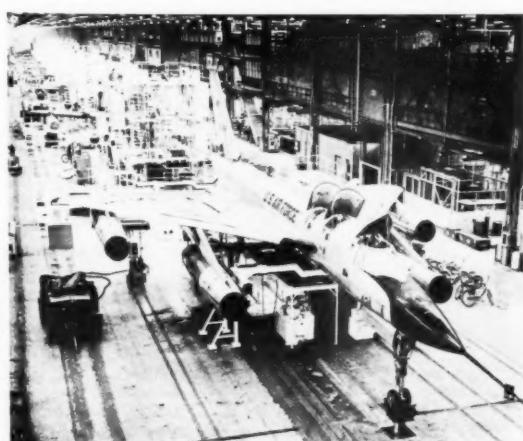
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A HOUND DOG AIR-TO-SURFACE MISSILE has been successfully launched by a B-52 jet bomber of the Strategic Air Command after a 22-hour, 10,800-mile non-stop flight.

It was fired over the Atlantic Missile Range upon completion of a 10,000-mile flight from Florida to the North Pole and back. The eight-jet plane refueled in flight twice during its round trip—once high over the polar ice cap and again over Lake Superior on the return flight.

The *Hound Dog* performed evasive action on command during its flight and its accuracy was monitored and recorded by a chain of radar sites off the Florida Coast.

This operational air-to-surface missile was launched by the same Air Force crewmen who launched the first two operational *Hound Dog* Missiles in February 1960.



DOWN THE LINE—Air Force *Hustler* B-58 bombers move down assembly line on work platforms in Texas factory.

THE BULLETIN BOARD

Now Is the Time for All Good Men to Come to Aid of the Party

WHETHER AT SEA or stationed overseas, many Navymen—and their wives—will be able to exercise their voting privileges in this year's presidential election. For some, it will be for the first time. Like most of the other members of the armed forces, a majority of the ballots cast by Navy voters will be of the absentee variety.

The most important piece of advice to any Navymen who wants to vote, says the Navy's Federal Voting Assistance Officer, is to check with the officer in your command who has been appointed "Voting Officer." He has all the information you will probably need.

Here are a few important facts about your eligibility and the laws concerning your voting privileges:

A special application form has been printed and distributed by the U.S. Government for absentee voters. This is the *Federal Post Card Application for Absentee Ballot* (Standard Form 76, revised 1955), better known as the FPCA.

The FPCA may be used to apply for an absentee ballot and for absentee registration if authorized by your state or territory. All states accept the form under certain circumstances, but standards of acceptance and procedure vary from state to state. It is important to refer to the laws of your state before filling out your FPCA. If your state authorizes your wife to use an FPCA she must, of course, be a qualified voter of her state. It goes without saying that you must both be United States citizens.

In addition to individual requirements specified by the various states, these general rules should be followed:

- When filling out the card, print by hand or by typewriter. Which ever method is used, be sure to include all information, and be sure it is clear and legible.

- Your name must appear twice—once printed or typed and once in your handwriting. Anyone may fill out the card but only the person for

whom the ballot is requested may sign it, unless the state specifies otherwise.

- In addition to giving street and number or rural route of your home, state the name of your county. This helps state officials speed action on the application.

- Military addresses, particularly in abbreviated form, are often confusing. Your present address should be so clearly printed or typed that no letter or digit will be misread.

- Your legal voting residence must be a place where you actually lived—not just a residence of record. No more than one such address may be given. If you have had more than one address in a state, give only the last, most current address.

- Whenever possible, certification should be made by your voting officer, commanding officer, or some other commissioned officer or authorized civilian, such as a notary public. Some states will accept certification by a petty officer.

- Before addressing your FPCA, check your state's mailing instruction. In some cases, the card is to be addressed to the Secretary of State

(who then sends it on to the proper local official); in other cases it is to be addressed to a local official, such as county clerk or auditor, or to an election board.

Mail the FPCA as early as your state permits. No postage is required.

If application for ballot or registration is made by letter instead of by FPCA, substantially the same information as required on the FPCA should be given. It is suggested that this form of application be subscribed and sworn to by a commissioned officer or authorized civilian. Otherwise, it may be returned.

Before you can register and vote, you must meet the eligibility requirements of your home state. Check the list below and then check with your command voting officer for details.

Age—All states except Alaska, Georgia, Hawaii and Kentucky require that a person be 21 years of age in order to vote in a general election. In both Georgia and Kentucky, however, 18-year-olds may vote. Nineteen is minimum age for Alaska, 20 years for Hawaii.

Residency—Every state and territory require a minimum period of residency as a prerequisite to voting. These requirements vary from state to state. In some states, six months' residency is all that is needed. In others, one must be a state resident for one or two years. South Dakota, for example, requires its voters to be a resident of the United States for five years, a state resident for one year, a county resident for 90 days and a resident of the precinct for 30 days.

Usually, the state, city, or county (or township or parish) in which you lived before entering the Navy is considered to be your legal residence for voting purposes—unless you have changed your legal residence while in the Navy.

Most states provide that time spent in the Navy may be included in the total residence requirement. For example, if the minimum residency requirement is two years and

All-Navy Cartoon Contest
J. F. Melvin, HM1, USN



"Why can't we put them in the oven and give everybody baked potatoes?"

a person lived in that state one year and then in the Navy for one year, he will have fulfilled the minimum residence requirement of two years.

A few states, however, require that a person meet the residency requirement before entering the armed forces in order to qualify for voting by absentee ballot. If you have any doubt about the requirements of your state, you should contact your voting officer. And even if you think that you have all the facts down pat, consult your voting officer anyway; he might have a few tips for you that have been missed.

Registration and Application — Most states require a person to be registered before voting and most of them also permit absentee registration. A few states require registration to be completed before election day.

In some states where registration is required, it is accomplished automatically when the absentee ballot and the attached registration affidavit have been properly executed and returned to the appropriate official.

A few states require re-registration periodically.

All states other than New Mexico will accept the Federal Post Card Application for ballot from persons desiring to vote. These post card applications are available to all personnel on active duty and their dependents. You may obtain them from your voting officer.

Be sure to make all necessary applications as early as your state will permit as the time element is most important. Check with your local voting officer for the details concerning the policies and procedures.

If you are a qualified voter, it is your privilege—and duty as a citizen—to cast your vote in every election.

Check with your local voting officer as soon as possible. He will also have information concerning the absentee voting privileges of your wife.

Note: The following state-by-state rules apply to service personnel. The regulations may be different for non-military personnel, and for wives and families of servicemen.

Alabama

Requirements — Residence: Two years in state, one year in county, three months in precinct. Must be able to read and write the U.S. Constitution, be of good character and a good citizen as determined by the

All-Navy Cartoon Contest
H. W. Sweezy, SN, USN



"Take ONE pill with one-fourth glass of water if you have a headache; one-half glass if you have a stomach-ache; a full glass of water if you are thirsty."

Board of Registrars. Must be registered. Payment of poll tax not required of armed forces personnel and veterans.

Registration—Permanent, once you have registered. If not previously registered, register in person at the office of Board of Registrars in county of residence on the first and

WHAT'S IN A NAME

The Sailing States

A custom no longer being carried out is that of giving names of states to warships. Over the years the names of 49 states have been carried by commissioned warships—all battleships with but two exceptions. USS Alaska was and is a CB, or large cruiser. USS Montana was a "first class armored cruiser" of the 1910 vintage.



third Monday of each month.

Election — Federal, state officers and presidential electors.

Application for ballot—Mail FPCA to County Register in Equity between 45 and five days before election.

Ballot deadline—Day of election is last day ballot will be accepted.

Alaska

Requirements — Residence: One year in state, 30 days in precinct. Must be able to read the Constitution and read and write English. Exception: Those who participated in the General Elections of 1924. Minimum age—19.

Registration—Not required in advance. Is a part of the voting procedure.

Election — Federal, state officers and presidential electors.

Application for ballot—Apply in writing to U.S. Commissioner in your district of residence within 90 days before election. Armed forces personnel may use FPCA.

Ballot deadline—Must be postmarked on or before day of election.

Arizona

Requirements — Residence: One

First two of the battleships were Texas and Maine. Commissioned in 1895 as "seagoing double-bottomed armored vessels," they later became known as "second class battleships." First bona fide battleship—the No. 1—was Indiana, also commissioned in 1895. Massachusetts and Oregon were her sister ships.

Next came Iowa and Kearsarge. Carrying the name of a mountain in New Hampshire, she was the only battleship not named for a state. (The Act of 2 Mar 1895 under which it was built read in part: "... one of said battle ships shall be named Kearsarge . . .")

Hawaii missed out sailing to sea by about 20 per cent. Hawaii was to have been a large cruiser. Its keel was laid in 1943 but (when about 80 per cent complete) construction was suspended in 1947.

Montana was a two-time loser. The would-be BB-51 had its keel laid in 1920 but construction was canceled in 1922. The would-be BB-67 was authorized in 1940; construction was suspended in 1943. Both were to have been USS Montana.

THE BULLETIN BOARD

year in state, 30 days in county and precinct. Be able to read the Constitution; write your name; be registered.

Registration — Permanent if you voted in last primary or general election. Apply by FPCA simultaneously for registration and absentee ballot.

Election — Federal, state and local officers and presidential electors.

Application for ballot — Mail FPCA to county recorder within 30 days prior to the Saturday before election.

Ballot deadline — Will be accepted up to 1800 on day of election.

Arkansas

Requirements — Residence: One year in state, six months in county, 30 days in precinct. Payment of poll tax not required by armed forces personnel.

Registration — Not required.

Election — Federal, state and local officers and presidential electors. Vote on constitutional amendments.

Application for ballot — Mail FPCA to county clerk within 60 days before election.

Ballot deadline — Will be accepted if it arrives before 1830 on day of election.

California

Requirement — Residence: One year in state, 90 days in county, 54 days in precinct. May vote for presidential electors after only 54 days in state. Be registered voter.

Registration — Permanent if you voted in last primary or general election. Apply by FPCA simultaneously for registration and absentee ballot.

Election — Federal, state and presidential electors.

Application for ballot — Apply by FPCA at any time to county clerk.

Ballot deadline — Postmarked no later than day of election; may be received by state no later than six days after election.

Colorado

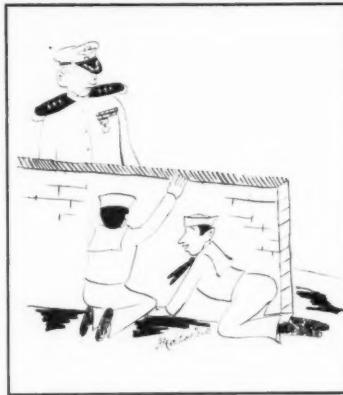
Requirements — Residence: One year in state, 90 days in county, 15 days in precinct. Be registered voter.

Registration — Permanent if you voted in last election. Apply by FPCA for registration and absentee ballot.

Election — Federal, state, county officers, presidential electors.

Application for ballot — Mail FPCA to county clerk between 90 days and noon Saturday before election.

All-Navy Cartoon Contest
L. E. Crutchfield, AN, USN



"Wouldn't it be easier to salute?"

Ballot deadline — Must arrive by 1700 on day of election.

Connecticut

Requirements — Residence: One year in state, six months in town. Read Constitution or Connecticut statutes; be of good moral character and sound mind; take oath of admission as voter; be registered.

Registration — Mail FPCA to town clerk at any time for registration.

Election — Federal, state and presidential electors. (NOTE: Former residents retain Connecticut voting rights for presidential electors for 24 months.)

Application for ballot — Mail FPCA to clerk of municipality two months before election.

Ballot deadline — Must arrive by 1800 day before election.

Delaware

Requirements — Residence: One year in state, three months in county, 30 days in precinct. Read state Constitution, write name, be registered.

Registration — Permanent by voting regularly. Apply by FPCA when requesting absentee ballot; or by writing for "Absentee Registration Affidavit" to Dept. of Elections, county of residence prior to 30 days before election. Return affidavit by 10 days before election.

Election — Federal, state, presidential electors.

Application for ballot — Mail FPCA to the Department of Elections, county of your residence any time before the general elections.

Ballot deadline — Must arrive before 1200 election day.

Florida

Requirements — Residence: One year in state, six months in county. Be registered.

Registration — Permanent if you voted once every two years. If it has lapsed, you may re-register when applying for absentee ballot.

Election — Federal, state, county and presidential electors. Vote on Constitutional amendments.

Application for ballot — Mail FPCA to Supervisor of Registration, county of residence between 45 and five days before election.

Ballot deadline — Must arrive by 1700 day before election.

Georgia

Requirements — Residence: One year in state, six months in county. Read and write U.S. or Georgia Constitution; be of good character and a good citizen; be registered.

Registration — Permanent if you voted once every two years. Request "Military Registration card" from tax collector, tax commissioner or registrar in county of residence at any time. Register before applying for absentee ballot.

Election — Federal, state, county and presidential electors. Vote on Constitutional amendments.

Application for ballot — Mail FPCA any time to Ordinary, county of residence.

Ballot deadline — Must arrive before polls close election day.

Hawaii

Requirements — Residence: One year in state, three months in representative district. Speak, read, write English or Hawaiian; be registered. Minimum age, 20.

Registration — Permanent if you voted in last general election. Request "Affidavit on Application for Registration" form from County Clerk (City Clerk for Honolulu) at least 90 days before election. Return the form to reach clerk no later than fourth Wednesday before election.

Election — One U.S. Representative and presidential electors.

Application for ballot — Mail FPCA to County Clerk (City Clerk for Honolulu) between 60 and 10 days before election.

Ballot deadline — Must arrive by day before election to count.

Idaho

Requirements — Residence: Six months in state, 30 days in county. For county elections, 90 days in precinct. Read and write; be registered.

Registration — Permanent if you voted in each general election. Register when voting absentee ballot.

Election — Federal, state, county and presidential electors. Vote on Constitutional amendments.

Application for ballot — Mail FPCA to county auditor any time up to five days before general election.

Ballot deadline — Must arrive before polls close election day.

Illinois

Requirements — Residence: One year in state, 90 days in county, 30 days in precinct.

Registration — Permanent if you voted once in last four years. Not required for armed forces personnel.

Election — Federal, state, county and presidential electors. Vote on bond issues.

Application for ballot — Mail FPCA to board of election commissioners or county clerk no earlier than 100 days before election.

Ballot deadline — Must arrive by day of election.

Indiana

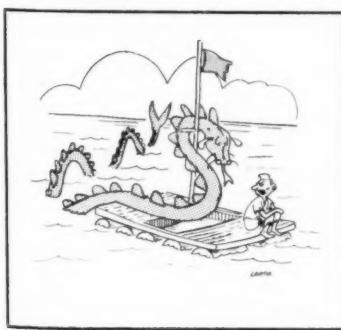
Requirements — Residence: Six months in state, 60 days in township, 30 days in ward or precinct. Be registered.

Registration — Permanent if you voted in each general election. Apply by FPCA for registration and absentee ballot.

Election — Federal, state, local and presidential electors.

Application for ballot — Mail FPCA

All-Navy Cartoon Contest
LT B. E. Lodge, USN



"Look, pal, go find your own life raft!"

Your Vote Really Counts— This Will Show You Why

Don't underestimate the power of your vote. It's all too easy to feel that one vote more or less couldn't make any difference.

Perhaps, but some elections—local and national—are surprisingly close. In 1916, for example, Charles Evans Hughes went to bed the night of the election confident that he had defeated Woodrow Wilson for the presidency. He awoke to discover that he had lost California by 3806 votes and, with that state, the electoral majority.

Some years earlier, James G. Blaine lost the state of New York by a margin of 1149 votes out of 1,167,169 cast in the election of 1884. If he had carried New York, he would have defeated Grover Cleveland.

And — because someone mis-marked his ballot in the Bamberg County, S.C., runoff primary this year, the state is going to have to run another election for sheriff. The candidates were deadlocked at 120 votes each.

to reach clerk of circuit court, county of residence 60 days before general election.

Ballot deadline — Must arrive by 1800 election day.

Iowa

Requirements — Residence: Six months in state, 60 days in county. Be registered in some places.

Registration — Execute affidavit on back of absentee ballot envelope.

Election — Federal, state and local officers, presidential electors, Supreme and District Court judges.

Application for ballot — Mail FPCA to county auditor, city or town clerk no earlier than 90 days before election.

Ballot deadline — Must arrive before election day.

Kansas

Requirements — Residence: Six months in state, 30 days in ward or township. Be registered in some cases.

Registration — Permanent by voting in general elections. Not required of armed forces personnel.

Election — Federal, state, local of-

ficers and presidential electors. Vote on Constitutional amendments.

Application for ballot — Mail FPCA to Secretary of State, Topeka 65 days before general election.

Ballot deadline — Must arrive by 1300 day before election.

Kentucky

Requirements — Residence: One year in state, six months in county, 60 days in precinct. Be registered. Minimum age: 18 years.

Registration — Permanent if you voted two consecutive years. You will be registered when ballot application is accepted.

Election — Federal officers and presidential electors.

Application for ballot — Mail FPCA to county court clerk prior to 10 days before election.

Ballot deadline — Must arrive before polls close on election day.

Louisiana

Requirements — Residence: One year in state, one year in parish, three months in precinct. Be registered.

Registration — Permanent in some places by voting once every two years. If not previously registered, register in person any time except during 30 days before election.

Election — Federal, state and local officers and presidential electors.

Application for ballot — Mail FPCA or other signed request to clerk of

All-Navy Cartoon Contest
Charles Wise, HMT, USN



"I don't care how Mrs. Mulligan fixes her stew! We'll stick to our recipe!"

THE BULLETIN BOARD

court (in Orleans to civil sheriff) any time.

Ballot deadline — Must arrive by day before election.

Maine

Requirements — Residence: Six months in state, three months in municipality. Read and write English; be registered.

Registration — Apply by FPCA for registration and absentee ballot.

Election — Federal, state, county officers and presidential electors. Vote on Constitutional amendments and referenda.

Application for ballot — Mail FPCA to Secretary of State, Augusta, or clerk of city or town of residence any time.

Ballot deadline — Must arrive before polls close on election day.

Maryland

Requirements — Residence: One year in state, six months in county. Be registered.

Registration — Permanent if you voted once in last five years. You are registered when voting by absentee ballot.

Election — Federal and presidential electors. Vote on Constitutional amendments and referendum.

Application for ballot — Mail FPCA or other application to Secretary of State, Annapolis, in time to be sent to board of supervisors of elections five days before election. Your wife may apply for an absentee ballot in writing to the board of supervisors of elections, city or county of residence no later than the 20th day before the election. She may use an FPCA if she includes under "Remarks" her name and residence address (as well as present address); a statement that she is a qualified voter of the ward or election district of residence; ward and district where she voted at the preceding election and a statement that she expects in good faith to be unavoidably absent from the state on election day, specifying the reason.

Ballot deadline — Must arrive before polls close on election day.

Massachusetts

Requirements — Residence: One year in state, six months in city or town. Must be able to read the State Constitution and write English; be registered.

Registration — Permanent. You are

September 27 Is Earmarked As Armed Forces Voting Day

The Navy is ready to help you cast your vote, but how you vote is strictly your own business. However, you have to do it yourself. No one can do it for you.

If you haven't cast your vote by 27 September, you'd better get busy. On that day, designated as Armed Forces Voting Day, your commanding officer and voting officer will do all they can to help and encourage you to apply for your absentee ballot if you haven't already done so. It's quite possible that your ship or station will plan special events and programs for the occasion.

And, you'll want to remember that, since the Federal Voting Assistance Program applies not only to you but to your family as well, your wife will probably be invited to participate in these activities.

The intent of all these efforts is to remind you to vote early enough to make your opinion count.

registered when ballot application is accepted.

Election — Federal, state, local officers, presidential electors.

Application for ballot — Mail FPCA to city or town clerk any time.

Ballot deadline — Must arrive before polls close election day.

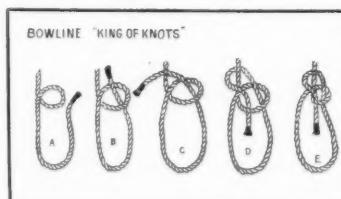
Michigan

Requirements — Residence: Six months in state, 30 days in city or township. Must be registered.

Registration — Permanent if you voted once in four years (in some places, two years). Apply for duplicate registration forms when applying for ballots as early as 75 days before election. Return forms with ballot.

Election — Federal, state, local of-

Grains of Salt—



ficers and presidential electors.

Application for ballot — Mail FPCA to reach city or township clerk as early as 75 days before election.

Ballot deadline — Must arrive before polls close election day.

Minnesota

Requirements — Residence: Six months in state, 30 days in election district. Registration required in some places.

Registration — Permanent if you voted once in four years. Apply by FPCA for registration and absentee ballot.

Election — Federal, state, local officers and presidential electors. Vote on Constitutional amendments.

Application for ballot — Mail FPCA to county auditor any time.

Ballot deadline — Must arrive before polls close election day.

Mississippi

Requirements — Residence: Two years in state, one year in election district. Read and write state constitution; be registered; pay \$2.00 poll tax except armed forces personnel and wives when voting by absentee ballot.

Registration — Permanent. Apply by FPCA for registration and absentee ballot. Complete registration four months before general election.

Election — Federal officers and presidential electors.

Application for ballot — Mail FPCA to reach city or county registrar within 60 days before general election.

Ballot deadline — Must arrive by day of election.

Missouri

Requirements — Residence: One year in state, 60 days in county. Registration required in some places.

Registration — Permanent if you meet voting requirements. Not required of armed forces personnel and their wives.

Election — Federal, state officers and presidential electors.

Application for ballot — Mail FPCA to clerk of county court or board of election commissioners, place of residence, any time, for "Official War Ballot."

Ballot deadline — Must arrive before 1800 the day after election day.

Montana

Requirements — Residence: One

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year in state, 30 days in county or precinct. Be registered.

Registration — Permanent. Mail FPCA to reach county clerk prior to 45 days before election.

Election — Federal, state, local officers and presidential electors. Vote on Constitutional amendments.

Application for ballot — Mail FPCA to reach county, city or town clerk within 45 days before election.

Ballot deadline — Must arrive before polls close election day.

Nebraska

Requirements — Residence: Six months in state, 40 days in county, 10 days in precinct or ward. Be registered in cities of over 7000, and in Douglas and Lancaster counties.

Registration — Permanent where required. Apply by FPCA for registration and absentee ballot. Write in margin: "Please mail registration forms."

Election — Federal, state, local officers and presidential electors.

Application for ballot — Mail FPCA to county clerk (election commissioner in Douglas and Lancaster counties) at least 90 days before election.

Ballot deadline — 1000 the Thursday after election day; must be postmarked before midnight the day before election.

Nevada

Requirements — Residence: Six months in state, 30 days in county, 10 days in precinct. Be registered.

Registration — Permanent for armed forces personnel and their wives. Apply by FPCA for registration and absentee ballot.

Election — Federal, state and local officers, presidential electors. Vote on Constitutional amendments.

Application for ballot — Mail FPCA to county clerk between 90 and 15 days before election if in United States; between 90 and 10 days if outside United States.

Ballot deadline — Must arrive before polls close election day.

New Hampshire

Requirements — Residence: Six months in voting precinct. Name on Check List, at place of residence.

Registration — Check List corresponds to registration. Your name is placed on list when ballot application is accepted.

Election — Federal, state, local of-

ficers and presidential electors. Vote on measures.

Application for ballot — Mail FPCA to Secretary of State, Concord, for "Armed Services Ballot" at any time.

Ballot deadline — Must arrive before polls close election day.

New Jersey

Requirements — Residence: Six months in state, 60 days in county.

Registration — Permanent if you

NOW HERE'S THIS

New Chief, New Twist

On the day when Edwin G. Sandberg became a chief boatswain's mate, one of his first thoughts was of the Pearl Harbor custom of throwing new chiefs into the nearest swimming pool.

"No man is going to toss me into any pool," he asserted.

"Very well," assured his CO, "Your wishes will be respected."

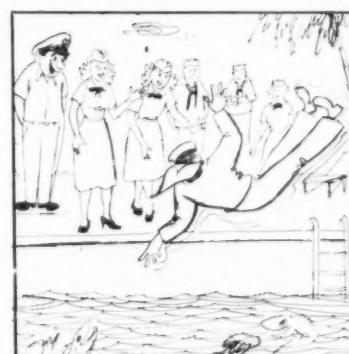
That little matter taken care of, Sandberg was ready to go along with any other gag his initiation might include. He fell into line when a party appeared to escort him to the ceremonies, and it just so happened that this was in the general direction of the Pearl Naval Station swimming pool.

It was a happy group of marchers. A drummer beat the cadence and the new chief fell gaily into step with master-at-arms men, his buddies and five Waves who joined the procession.

Down to poolside the marchers came. Confidently, remembering his skipper's assurance, Sandberg ventured near the water. The male members of the party lagged behind.

Next thing he knew, the Waves had given him the heave ho and the deep six.

No man had tossed him in—but he was all wet anyway.



voted once in four years. Not required of armed forces personnel and veterans in VA hospitals. Others: Register in person 40 days before election with commissioner of registration or county board.

Election — Federal, state, local officers and presidential electors.

Application for ballot — Mail FPCA to reach county clerk any time up to eight days before election.

Ballot deadline — Must arrive before polls close election day.

New Mexico

Requirements — Residence: One year in state, 90 days in county, 30 days in precinct. Be registered.

Registration — Permanent if you voted in last two elections. Registration in advance not required of armed forces personnel and wives.

Election — Federal, state and presidential electors. Vote on Constitutional amendments.

Application for ballots — Mail FPCA to Secretary of State any time after 1 July.

Ballot deadline — In time for Secretary of State to forward to county clerk by noon of day before election.

New York

Requirements — Residence: One year in state, four months in county, city or village, 30 days in election district.

Registration — Permanent in some places. Apply by FPCA for registration and absentee ballot.

Election — Federal, state, local officers and presidential electors.

Application for ballot — Mail FPCA to reach Division for Servicemen's Voting, Office of Secretary of State, Albany, prior to 11th day before election.

Ballot deadline — Must arrive by 1200, day before election.

North Carolina

Requirements — Residence: One year in state, 30 days in precinct. Read and write State Constitution; be registered.

Registration — Permanent except for armed forces personnel on leaving service. Apply by FPCA for registration and absentee ballot.

Election — Federal, state, local officers and presidential electors.

Application for ballot — Mail FPCA to Secretary of State, Raleigh, or to chairman, county board of elections,

THE BULLETIN BOARD

county of residence, any time.

Ballot deadline — Must arrive by 1500, day of election.

North Dakota

Requirements — Residence: One year in state, 90 days in county, 30 days in precinct.

Registration — Not required.

Election — Federal, state officers, presidential electors. Vote on referenda.

Application for ballot — Mail FPCA to reach county auditor, county of residence, within 30 days before election.

Ballot deadline — Must arrive within 20 days after election day.

Ohio

Requirements — Residence: One year in state, 40 days in county, 40 days in precinct. You may vote for presidential electors with less than one year's residence if otherwise qualified.

Registration — Permanent if you voted once every two years. Not required of armed forces personnel if voting by absentee ballot.

Election — Federal, state, local officers and presidential electors. Vote on local questions.

Application for ballot — Mail FPCA to reach clerk of county board of elections, county of residence, after 1 January.

Ballot deadline — Must arrive by 1200, day of election.

Oklahoma

Requirements — Residence: One year in state, six months in county, 30 days in precinct.

Registration — Permanent if you voted once in last four years (in Muskogee and Tulsa counties, once in three state elections). Not required for armed forces personnel and their wives if voting absentee ballot.

Election — Federal and state officers and presidential electors.

Application for ballot — Mail FPCA any time to Secretary of State, Oklahoma City.

Ballot deadline — Must arrive by 1700 Friday before election.

Oregon

Requirements — Residence: Six months in state. Read and write English; be registered.

Registration — Permanent if you voted once in two years. Apply by

All-Navy Cartoon Contest
LT B. E. Lodge, USN



FPCA for registration and absentee ballots.

Election — Federal, state, local officers and presidential electors. Vote on Constitutional amendments and referenda.

Application for ballot — Mail FPCA to county clerk or Secretary of State, Salem, within year of election.

Ballot deadline — Must arrive before polls close on election day.

Pennsylvania

Requirements — Residence: One year in state (six months if previously a resident and returned), two months in election district, precinct or division.

Registration — Permanent if you voted once in the last two years. Not required of armed forces personnel.

Election — Federal, state officers and presidential electors.

Application for ballot — Mail FPCA to Secretary of State, Harrisburg, or county board of elections, any time.

Ballot deadline — Must arrive by 1000 second Friday after election. Vote no later than election day.

Rhode Island

Requirements — Residence: One year in state, six months in town.

Registration — Permanent if you voted once in last five years. Not required of armed forces personnel and wives.

Election — Federal, state, local officers and presidential electors.

Application for ballot — Mail FPCA to Secretary of State, Providence, any time.

Ballot deadline — Must arrive before 5 December.

South Carolina

Requirements — Residence: Two

years in state, one year in county, four months in polling precinct. Read and write State Constitution or own \$300 in property with taxes paid; be registered.

Registration — Request "Registration Card" from Board of Registration, county of residence, any time. Return to Board prior to 30 days before election.

Election — Federal and local officers, and presidential electors.

Application for ballot — Mail FPCA any time to Board of Registration, or Secretary of State, Columbia.

Ballot deadline — Must arrive before polls close election day.

South Dakota

Requirements — Residence: Five years in United States, one year in state, 90 days in county, 30 days in precinct. Be registered.

Registration — Permanent if you voted in last general election. Mail FPCA for registration and absentee ballot to reach Registration Board, place of residence, prior to 20 days before election — after 1 August for general election.

Election — Federal, state and local officers and presidential electors. Vote on Constitutional amendments.

Application for ballot — Mail FPCA to county auditor, county of residence, any time.

Ballot deadline — Must arrive before polls close election day.

Tennessee

Requirements — Residence: One year in state, three months in county. Be registered.

Registration — Permanent if you voted in one state election in four years. Apply by FPCA for registration and absentee ballot.

Election — Federal and state officers and presidential electors.

Application for ballot — Mail FPCA to election commission, county of residence, or Secretary of State, Nashville, before 10 October if inside United States; before 1 September if outside United States.

Ballot deadline — Must arrive before polls close election day.

Texas

Requirements — Residence: One year in state, six months in county. Pay poll tax (\$1.50 state and, if required, \$.25 county tax) or have exemption certificate.

Registration — No registration, but

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poll tax receipt and exemption certificate correspond to registration. See your voting officer for details.

Election — Federal, state and local officers and presidential electors.

Application for ballot — Mail FPCA any time to county clerk with poll tax or exemption certificate.

Ballot deadline — Must arrive by 1300 election day; vote between 20th and fourth day before election.

Utah

Requirements — Residence: One year in state, four months in county, 60 days in precinct. Be registered.

Registration — Permanent if you voted in last general election. Apply by FPCA for registration and absentee ballot.

Election — Federal, state and local officers and presidential electors.

Application for ballot — Mail FPCA to county clerk within 30 days before election.

Ballot deadline — Must arrive before polls close election day.

Vermont

Requirements — Residence: One year in state. Take Freeman's Oath and have name on town Check List; pay poll tax to vote in annual Town Meeting.

Registration — Voter's Check List corresponds to registration. To get on List, take Freeman's Oath in person or by mail. Apply by FPCA when applying for ballot.

Election — Federal, state, local officers and presidential electors. Vote on an Act.

Application for ballot — Mail FPCA to town clerk any time.

Ballot deadline — In time to be delivered to election officers before polls close election day.

Virginia

Requirements — Residence: One year in state, six months in county, 30 days in precinct. Be registered. Poll tax not required of armed forces personnel.

Registration — Permanent. Not required of armed forces personnel.

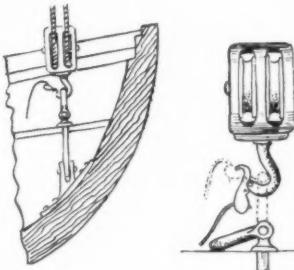
Election — Federal officers and presidential electors.

Application for ballot — Mail FPCA to Secretary of State or state board of elections, Richmond, any time.

Ballot deadline — In time for delivery to election officials before polls close election day.

Grains of Salt—

AUTOMATIC RELEASING HOOK



Washington

Requirements — Residence: One year in state, 90 days in county, 30 days in city or voting precinct. Read and speak English, be registered.

Registration — Permanent if you voted once in the last four years. Apply by FPCA for temporary registration and absentee ballot, or in person for permanent registration as other persons.

Election — Federal, state and local officers, presidential electors.

Application for ballot — Mail FPCA to Secretary of State, Olympia, any time before election.

Ballot deadline — Must arrive within 15 days after general elections; vote on or before election day.

West Virginia

Requirements — Residence: One year in state, 60 days in county and precinct. Be registered.

Registration — Permanent if you voted once in period of two primary and general elections. Request "Temporary Registration Form" from county clerk, county of residence, any time. Return to reach clerk prior to 10 days before election.

Election — Federal, state, county officers, presidential electors.

Application for ballot — Apply by FPCA to clerk of circuit court, county of residence, prior to 10 days before election.

Ballot deadline — In time to be delivered to election officials before polls close election day.

Wisconsin

Requirements — Residence: One year in state, and a residence of 10

days in election district or precinct.

Registration — Permanent if you voted once in last two years. Not required of armed forces personnel.

Election — Federal, state and local officers, presidential electors. Vote on joint resolution.

Application for ballot — Mail FPCA any time to county, city, town or village clerk (Board of elections commissioners, Milwaukee).

Ballot deadline — In time to be delivered to election officials before polls close election day.

Wyoming

Requirements — Residence: One year in state, 60 days in county, 10 days in voting precinct. Read state constitution, be registered.

Registration — Permanent if you voted once in last two years. Apply by FPCA for registration and absentee ballot.

Election — Federal and state officers, presidential electors. Vote on Constitutional amendments.

Application for ballot — Mail FPCA to county, city or town clerk, place of residence, any time.

Ballot deadline — Must arrive by Election day.

Mobile Clothing Store Makes Round of Washington

Navy personnel at naval activities in the Washington, D.C., area will no longer have to leave their home stations to obtain uniform and small stores items. From now on, the small stores will come to them.

Starting 1 Jul 1960, a mobile clothing store began operating between naval activities in the D.C. area that have no clothing and small stores of their own. The van carries an extensive line of uniform clothing.

By making periodic visits to these activities, the mobile shop will reduce the inconvenience and lost time for Navy personnel who formerly had to travel to another command for uniform clothing.

The van was provided and outfitted by the Bureau of Supplies and Accounts, designed by the U.S. Naval Supply Research and Development Facility, Bayonne, N. J., and operated by the U.S. Naval Station, Washington, D.C.

27,000 Navymen Now Earn Proficiency Pay

On 16 Jul 1960, some 27,000 Navymen and women began a one-year period of drawing proficiency pay (P-1). Here's a breakdown on the number in each rating who are drawing the extra \$30 a month as a

result of the May 1960 examinations. These figures do not include the 25,767 persons who were granted proficiency pay as a result of the November 1959 examinations. (See also box on next page)

Rate	Number Who Received Pro-pay	E-4	E-5	E-6	E-7	Rate	Number Who Received Pro-pay	E-4	E-5	E-6	E-7
AB	—	289	87	1		FTM	167	—	—	—	
ABG	102	—	—	—		FTU	32	—	—	—	
ABU	209	—	—	—		GF*	—	—	22	8	
AC	—	—	14	3		GM	—	—	44	19	
ACR	26	37	—	—		GS	119	72	53	5	
ACW	178	50	—	—		HM	—	—	43	120	
ACT	180	183	—	—		IC	454	200	69	26	
AD	—	—	44	70		IM	29	26	2	4	
AE	—	532	25	5		JO	59	29	15	8	
AE1	249	—	—	—		LI	49	41	20	1	
AEM	591	—	—	—		MA	—	—	5	1	
AG	231	93	58	2		ML	13	15	2	1	
AK	—	—	5	10		MM	1013	621	346	251	
AM	—	—	5	6		MN	74	93	14	14	
AO	—	—	20	27		MR	213	107	40	13	
AQ	—	114	7	22		MU	66	82	24	24	
AQB	75	—	—	—		NW	83	37	44	11	
AQF	180	—	—	—		OM	25	18	15	7	
AT	—	941	355	220		PH	—	—	3	8	
ATN	855	—	—	—		PM	17	9	3	4	
ATR	503	—	—	—		PN	—	—	9	8	
ATS	160	—	—	—		PR	—	—	14	6	
BM	—	—	52	5		PT	10	14	6	3	
BR	—	—	9	8		QM	227	218	10	55	
BT	701	531	5	6		RD	602	298	114	53	
BU	—	—	1	6		RM	1100	653	371	6	
BUH	9	4	—	—		SD	—	—	8	2	
BUL	53	49	—	—		SF	—	—	25	9	
BUR	28	17	—	—		SFM	233	301	—	—	
CE	—	—	33	8		SFP	216	234	—	—	
CEP	16	16	—	—		SH	—	—	15	7	
CES	9	7	—	—		SK	—	—	13	8	
CET	8	7	—	—		SM	233	204	137	44	
CEW	26	10	—	—		SO	—	—	49	40	
CM	—	—	4	4		SOA	56	25	—	—	
CS	—	—	13	8		SOG	243	123	—	—	
CTA	83	58	56	1		SOO	29	—	—	—	
CTM	105	52	24	1		SOS	76	43	—	—	
CTO	114	98	45	1		SV	11	8	1	3	
CTR	339	239	79	4		SW	—	—	4	3	
DC	—	—	20	10		SWE	22	13	—	—	
DK	—	—	8	9		SWF	13	23	—	—	
DM	77	42	18	2		TD	—	153	16	10	
DTG	—	—	5	4		TDI	149	—	—	—	
DTP	—	—	3	3		TDR	66	—	—	—	
DTR	—	—	2	—		TM	241	317	6	53	
EM	1054	656	178	7		UT	—	—	2	3	
EN	—	—	17	24		UTA	15	10	—	—	
EO	—	—	7	9		UTB	8	8	—	—	
ET	—	437	63	163		UTP	39	40	—	—	
ETN	472	—	—	—		UTW	6	8	—	—	
ETR	569	—	—	—		YN	—	—	56	70	
ETS	37	—	—	—		Recruiters	—	—	11	12	
FT	—	316	32	5		Total	13,617	8821	2925	1574	
FTA	278	—	—	—		Grand Total	—	—	—	—	
FTE	1	—	—	—							
FTG	3	—	—	—							
FTL	88	—	—	—							

*Even though this rate is being disestablished, those selected to draw pro pay will continue to receive proficiency pay in their new rating.

Korean Service and National Defense Medals Now Available from BuPers

The National Defense and Korean Service Medals are now available to naval personnel, including veterans. Lack of funds had delayed distribution of these medals.

The National Defense Service Medal is authorized for all persons in the naval service who served on active duty at any time between 27 Jun 1950 and 27 Jul 1954, except Reservists on active duty for training or on active duty for short periods to serve on boards, courts, etc.

The Korean Service Medal is awarded to those who served in the prescribed Korean area between 27 Jun 1950 and 27 Jul 1954, under specified terms. For example, if you were on sea duty for one or more days in the designated area, while attached to and serving on board a Navy ship or other vessel to which regularly assigned for duty, you are eligible. In addition, if you were attached to an organization that took part in combat operations or in direct support of combat missions, and served regularly on shore in the designated area for one or more days, you are eligible. Service of 30 consecutive days or 60 nonconsecutive days in the prescribed area is required for personnel on TAD, except in instances where a ship, aircraft, or unit engaged in combat with, attacked, or was attacked by, enemy forces; in these circumstances, all U.S. naval personnel serving in the ship, aircraft or unit are eligible for the medal, without regard to the time limit. Personnel embarked in a hospital ship for passage as a patient are considered as attached to the ship.

Submit your request to the Chief of Naval Personnel, Department of the Navy, Washington 25, D.C., via official channels.

New York State Revives Law On Hunting, Fishing Licenses

Before you plan a hunting or fishing expedition in New York state, you'd better check the new laws. You may need a license.

The New York state legislature has amended the laws which allowed military personnel on active duty to take fish and wildlife (except

deer and bear) without obtaining the licenses normally required.

Beginning 1 July, the exemption applies only to those servicemen who are legal residents of New York State and are stationed outside the state. You are then exempt for the first 30 days of any leave you take in the state.

All others are required to have hunting, fishing or trapping licenses to participate. If stationed in New York, servicemen are eligible for resident licenses regardless of the length of time stationed there—that is, there is no waiting period for service personnel. If you are stationed outside the state and you are not a legal New York resident, you must obtain a non-resident license to hunt or fish.

First Group of Navymen Earn Pro Pay at Higher Level

On 16 July, 1250 Navymen in nine technical ratings were awarded Proficiency Pay, grade P-2. To be eligible for this extra \$60 a month, the men were required to be second, first or chief petty officers in one of nine technical ratings selected by the Navy. In addition they had to be working in that rating, already drawing pro-pay P-1, recommended by their commanding officers, and were required to pass the Fleet-wide examination with a high enough score to be selected.

Here are the numbers in each rating that were among this first group of Navymen ever to be awarded proficiency pay, P-2. They will receive the \$60 a month for one year, at which time they must requalify or lose it.

RATE	E-5	E-6	E-7
AT	99	87	85
CTA	8	5	2
CTM	4	4	3
CTO	9	7	3
CTR	15	10	5
ET	94	74	56
FT	44	4	2
GS	9	2	2
NW	6	6	5
RD	70	56	27
RM	122	174	18
SO	—	43	47
SOA	10	—	—
SOG	22	—	—
SOS	11	—	—
TOTAL	523	472	255

Open Rates Are Listed For Naval Reservists Seeking Transfer to USN

The Chief of Naval Personnel has designated 123 open rates in which Naval Reserve personnel who served on active duty before 1 Sep 1958 may enlist in the Regular Navy after they complete their current obligated active duty.

This revised list is part of a continuing effort to afford qualified Naval Reservists on active duty an opportunity for a career in the U.S. Navy. If your rate is listed, here's your chance.

The open rates recently announced as change five to BuPers Inst. 1130.4F include:

QM2, 3	SF3
SM1, 2, 3	PM1, 2, 3
RD1, 2, 3	ML3
SOC, 1, 2, 3	SVC1, 2, 3
TMC, 1, 2, 3	CE1, 2, 3
GM3	CM3
GS2, 3	BU2, 3
FT2, 3	SW2, 3
NWC, 1, 2, 3	AD3
MN3	AT1, 2, 3
ETC, 1, 2, 3	AO3
OM1, 2, 3	AQ1, 2, 3
RM1, 2, 3	AC3
CT1, 2, 3	AB2, 3
JOC, 1, 2	PR2, 3
SK2, 3	AG1, 2, 3
MUC, 1, 2, 3	TD3
DM1, 2, 3	AK3
MM1, 2, 3	PH2, 3
EN2, 3	PTS, 1, 2, 3
MR1, 2, 3	AN, AA, AR
BT2, 3	SN, SA, SR
BRC, 1	DN, DA, DR
EM1, 2, 3	TN, TA, TR
ICC, 1, 2, 3	

New Correspondence Courses For Officers, Enlisted Men

Three new correspondence courses—two enlisted and one officer—have been issued by the Bureau of Naval Personnel, and two enlisted courses have been discontinued.

The new enlisted courses, both of which may be taken for repeat Naval Reserve credit, are *Steelworker 3 and 2* (NavPers 91589-1) and *Electrician's Mate 3 and 2* (NavPers 91524-1). The new officer's course, which is classified as Confidential, is *ASW Operations* (NavPers 10406).

Electrician's Mate 3 (NavPers 91523-D) and *Electrician's Mate 2* (NavPers 91524-F) are the discontinued correspondence courses.

QUIZ AWEIGH

Even in today's futuristic Navy, a sailor just isn't with it unless he uses a seafarer's lingo. Here are a few salty terms or expressions. Go over them and see how well versed you are when it comes to their origin and meaning.

1. No doubt you heard about Charley Noble upon your arrival at boot camp, if not sooner. This nautical term for a ship's galley smoke stack was first used by the British and by U.S. Navymen since (a) 1780, (b) 1850, (c) 1900.



2. When assigned the Graveyard Watch, you would be on watch from (a) 2400 to 0400, (b) 0400 to 0800, (c) 2000 to 2400.

3. To the old timers land we do mean way back when a "Donkey's Breakfast" was a (a) reprimand, (b) keelhauling, (c) sailor's bed.

4. In yesteryears a Sea Corporal was the custodian of all swords, pistols, carbines and muskets. Today, they are still around but under a different title and have somewhat different responsibilities. A Sea Corporal in today's Navy would be called (a) Gunner's Mate, (b) Master at Arms, (c) son of a gun.



5. Today, perhaps more than ever before, a good number of career Navy men are "swallowing the anchor." This salty term means (a) they ate too much, (b) said what they shouldn't have, (c) getting out after 20.

6. The term "chit" which applies to practically any piece of paper, whether a simple printed form or an official letter, was once used for money. This nautical term was derived from "cithi" which means money in (a) Chinese, (b) Hindustani, (c) Portuguese.

The answers to this month's quiz can be found on page 53.

Deadline Is Nearing for Navymen Planning to Apply for NROTC

IF YOU HAVE PLANS to take advantage of the opportunities offered by the Navy to improve your educational background, you'd better get moving. The deadline for the Navy's 1961 NROTC program is rapidly approaching. A nomination from your commanding officer must be received by the Chief of Naval Personnel by 20 Oct 1960.

Provided your nomination reaches the Bureau on time, and if you are considered qualified, your skipper will receive a copy of the Navy College Aptitude Test, which you'll take on the Fleet-wide test date on 10 December.

This test and your physical examination are the controlling factors which determine whether your application will be given further consideration.

The names of those who pass the college aptitude test will be published next spring, and next summer, if you're still interested in the program, you'll be ordered to the Naval Preparatory School at Bainbridge, Md. If you negotiate the Prep School successfully you'll be appointed midshipman in the Reserve and sent to an NROTC Unit at the school of your choice to begin your studies.

While you're studying for a bachelaureate in a field you select, the Navy will provide you with:

- All tuition, books and fees.
- Retainer pay of \$50 a month for four years.
- The required uniforms for wear at drills, on cruises, and at other functions for which uniforms may be prescribed.
- Three eight-week summer cruises, during which you'll receive practical training and firsthand experience. Two of these cruises will be to choice liberty areas such as Europe and South America. The third normally takes you to Little Creek, Va., and Corpus Christi, Tex., for amphibious and aviation training.
- Upon graduation a commission as ensign in the Regular Navy or second lieutenant in the Regular Marine Corps.

Sounds like a good deal—and it is—but it's not all beer and skittles. Although the midshipman who enters the program from active duty

enlisted status retains his enlisted rate on a suspended basis (in case you are separated from the program), you receive only your retainer pay of \$50 a month, or the increased pay you get during summer cruises.

This is definitely not enough to make you the richest man on campus. In fact, experience has proved that you will probably need an additional \$300 to \$600 per year—depending on the school and your tastes to meet all expenses. Unless your family can help you out, or you can save some cash beforehand, digging up that much money can be quite a problem especially when you are so busy with your studies that it would be almost impossible for you to take a part-time job.

"That's no problem for me," you might be figuring to yourself, "I'm all set to get married and I know my wife wouldn't mind working long enough for me to get through school."

This isn't the solution either. In order to get into the program you must be single, and agree to stay that way until you're commissioned as an officer.

Largely because of the problem of finances, the Navy is not getting as many active duty applicants for Regular NROTC as it would like to have, so the odds in favor of being nominated for the program are better than you might think.

The program is open to Regular and Reserve enlisted men on active duty and to inactive Reservists and civilians. Each year some 1600 candidates are selected for it. Of that

number, 160 candidates are Navy-men or Marines who've applied while on active duty.

The names of those who pass the college aptitude test will be published in March, and next summer, you'll be ordered to the Naval Preparatory School at Bainbridge, Md., where you'll get a chance to brush up on your studies. After that (providing, of course, that you get through the Preparatory School successfully) you'll be appointed midshipman in the Reserve, and sent to one of 52 NROTC Units.

While in college you may take any course leading to a bachelor's degree EXCEPT the following:

Pre-Medicine, Pre-Dental, General Agriculture, Dairy Production, Soils, Wildlife Management, Soil Conservation, Hotel Administration, Anthropology, Pre-Veterinary, Pre-Theological, Agronomy, Dairy Manufacturing, Horticulture, Real Estate, Religion, Landscape Architecture, Physical Education, Pharmacy, Music, Art, Law, Poultry Husbandry, Dairy Husbandry, Floriculture, Animal Science, Entomology, Dramatics, Industrial Arts, or Animal Husbandry. Except for these courses the field is wide open to you.

There are some courses you'll be required to take. You must have 24 semester hours, or the equivalent in quarter hours, of naval science. You'll also need to complete one year of college mathematics and one year of college physics by the end of your sophomore year. And, you'll be required to achieve proficiency in written and oral English, meeting the standards established by the college you attend. Outside of these few restrictions and requirements, you'll be practically on your own for the four years of schooling.

Upon graduation you'll be commissioned and ordered to active duty for four years. Depending on the needs of the service at the time, your commission will be as an ensign (Line) in the Navy, a second lieutenant in the Marine Corps or an ensign in one of the Navy's staff corps. You'll be given a chance to indicate which branch you'd prefer.

Most of the graduates take Line commissions in the Navy. If you apply, and are qualified, you may

Grains of Salt—



HERE'S YOUR NAVY

The Navy, along with the other branches of the armed forces, differs from the usual method in the matter of displaying the national ensign ashore. It is flown at (or near) the headquarters of commands ashore from 0800 to sunset.

"It is the universal custom to display the flag only from sunrise to sunset on buildings and on stationary flagstaffs . . ." according to Public Law 829—77th Congress, as amended by Public Law 107—83rd Congress.

This law is in the form of a resolution and is often termed the U.S. Flag Code. "... Displayed on all days when the weather permits," is the way another part of the code reads. It should especially be flown on New Year's Day, Inauguration Day (20 January), Lincoln's Birthday, Washington's Birthday, Army Day (6 April), Easter Sunday, Mother's Day, Memorial Day (half staff until noon), Flag Day, Independence Day, Labor Day, Constitution Day (17 September), Columbus Day, Navy Day (27 October), Armistice Day, Thanksgiving Day, and Christmas Day. Also, "such other days as may be pro-



claimed by the President of the United States; the birthdays of States (dates of admission); and on State holidays."

The quoted matter is from the Flag Code. The code is provided for the "use of such civilians or civilian groups or organizations as may not be required to conform with regulations."

There are a few locations where the national ensign is regularly flown both day and night. These are:

Fort McHenry, Baltimore, Md.

The World War I Memorial, Worcester, Mass.

The Francis Scott Key Memorial, Frederick, Md.

The "Flag House," Baltimore, Md.

The Plaza at Taos, N.M.

"Field of Honor," Sunset Hills Cemetery, Jamestown, N.Y.

Riverdale Cemetery, Niagara Falls, N.Y.

Pennsylvania Hall, Gettysburg, Pa.
Mt. Suribachi, Iwo Jima.

One very famous building flies not one, but two, national ensigns "full time." The Capitol Bldg., Washington, D.C. displays one flag over the east front, another flag over the west front.

receive immediate assignment to flight, submarine or nuclear training.

Once you are commissioned you'll be considered a career officer in every sense of the word, since the Regular NROTC program is designed as a supplement to the Navy Academy's output. However, during your third year of commissioned service you must indicate whether or not you want to continue your career as a Regular Officer. All those who apply will be screened, and those who are selected, within the authorized strength established at the time, will continue their careers in the Regular Navy or Marine Corps.

Those who do not apply, or who are not selected for retention will be re-appointed as Reserve officers. They will be retained on active duty for an additional year to complete four years of active duty unless sooner released by the Secretary of the Navy, at which time they may be ordered to inactive duty to fulfill the remainder of their original six-year obligations.

Sound worth looking into? The eligibility requirements can be found in Articles C-1202 and C-1204 of the BuPers Manual. Briefly, here's what it takes:

- You must be on an enlistment or extension of an enlistment which will not expire before 1 September of the year in which you will enter college.
- You must have reached your 17th—but not your 21st—birthday on 1 July of the year in which you wish to enter the program. However, for men on active duty, the upper age limit will be waived if you have previous college credits, and if you will not have reached your 25th birthday by 1 July of the year in which you graduate from college. To establish this waiver, you will have to submit a college transcript.

- You must be a high school graduate or possess the equivalent

educational background or high school certificate which would be acceptable for admission to an NROTC college or university.

- You must be a U.S. citizen.
- You must be unmarried and agreed to remain unmarried until commissioned.

- You must be of good moral character, have the potential for leadership and be recommended by your commanding officer.

- You must pass a physical examination conducted by two medical officers. (The final determination of your physical qualifications is subject to review and decision by the Chief, Bureau of Medicine and Surgery, and to the approval of the Chief of Naval Personnel. No waivers of physical defects will be granted.)

Foreign Language Courses Are Available for Certain Personnel At Naval Intelligence School

Length of courses and other details about foreign language instruction at the Naval Intelligence School (Washington, D.C.) have been spelled out in a recent directive.

In BuPers Inst. 1520.27B are listed the three languages of the six-weeks' "Getting Along and Getting Around" courses: French, German, and Portuguese. An eight-weeks basic Spanish course is also provided.

The main body of instruction deals with the interpreter-translator courses. Ranging from 19 weeks to 60 weeks, these courses attempt to provide the student with a practical command of the written and spoken language. Courses in this group are:

Arabic—41 weeks	Portuguese—
Chinese—60 weeks	22 weeks
French—19 weeks	Russian—36 weeks
German—36 weeks	Spanish—19 weeks
	Turkish—37 weeks

Officers are eligible to apply for language instruction. They are ordered to these courses only when their services are needed in a billet calling for the foreign-language ability "immediately upon reporting aboard."

Certain enlisted men scheduled for duty in a Naval Security Group, MAAG, Mission or Naval Attaché post are, from time to time, ordered to a course of instruction at the school. However, applications from enlisted personnel, other than Naval Security Group, are not desired.

ANSWERS TO THIS MONTH'S QUIZ AWEIGH

1. (b) 1850.
2. (a) 2400-0400.
3. (c) Sailor's bed.
4. (b) Master at Arms.
5. (c) Getting out after 20.
6. (b) Hindustani.

Quiz Aweigh appears on page 51.

THE BULLETIN BOARD

DIRECTIVES IN BRIEF

This listing is intended to serve only for general information and as an index of current Alnavs and NavActs as well as current BuPers Instruction, BuPers Notices, and SecNav Instructions that apply to most ships and stations. Many instructions and notices are not of general interest and hence will not be carried in this section. Since BuPers Notices are arranged according to their group number and have no consecutive number within the group, their date of issue is included also for identification purposes. Personnel interested in specific directives should consult Alnavs, NavActs, Instructions and Notices for complete details before taking action.

Alnavs apply to all Navy and Marine Corps commands; NavActs apply to all Navy commands; BuPers Instructions and Notices apply to all ships and stations.

Alnavs

No. 12—Quotes letter from the Secretary of the Navy to the president of the fiscal year 1961 flag selection board.

No. 13—Directs commands to insure that all personnel in their commands fully understand the necessity of complying with customs regulations.

No. 14—Announced the convening of boards for the selection of line and staff corps officers on active duty (except TARs) for promotion to the grades of captain and commander and for the continuation of USN officers on the active list in the grade of commander.

No. 15—Added a new Article (58A) to the UCMJ, concerning automatic reduction in grade.

No. 16—Announced approval by the President of the report of selection boards that recommended officers for temporary promotion to the grades of major general and brigadier general in the Regular Marine Corps.

No. 17—Announced approval by the President of the Report of the selection board that recommended USN line officers for temporary promotion to the grade of rear admiral.

No. 18—Cited certain recommended procedures in courts-martial to comply with a recent decision.

Instructions

No. 1430.12B—Provided instructions for the administration of the Proficiency Pay program.

No. 1760.3C—Provides a current summary of state bonuses for veterans of World War II, and those

All-Navy Cartoon Contest
T. H. Tennant, YNC, USN



"For which of the following reasons will I not loan you ten bucks? One: UCMJ says it's unlawful. Two: BuPers Manual forbids it. Three: Navy Regs say no. Or, Four: You still owe me five from last month!"

with service after 20 Jun 1950.

Notices

No. 1760 (5 July)—Announced the distribution and availability of two pamphlets: "Going Back to Civilian Life" (NavPers 15855-D), and "Your Personal Affairs" (NavPers 15900A).

No. 5000 (5 July) — Alerted commanders to correspondence and advertising matter which have the appearance of official naval correspondence.

No. 5812 (11 July)—Requested a report on the number of nonjudicial punishments awarded enlisted personnel during 1 Jul 1959 to 30 Jun 1960.

GI Home, Farm and Business Loans Extended for Vets

World War II veterans have two more years in which to obtain Veterans Administration-guaranteed home, farm and business loans.

As the result of a bill signed into law on 14 Jul, both World War II and Korean veterans can continue to apply for direct loans from the Federal government if they live in designated rural areas where GI loans are not obtainable from the local lending institutions.

New expiration date for the guaranteed loan program for World War II veterans and for the direct loan program for both World War II and Korean veterans is 25 Jul 1962.

While both World War II and

Korean veterans may now apply for direct loans through 25 Jul 1962, Korean veterans may continue to seek VA-guaranteed loans through 31 Jan 1965, as provided for by previous legislation.

List of Motion Pictures Scheduled for Distribution To Ships and Overseas Bases

The latest list of 16-mm feature movies available from the Navy Motion Picture Service, Bldg. 311, Naval Base, Brooklyn, N. Y., is published here for the convenience of ships and overseas bases. The title of each picture is followed by the program number.

Those in color are designated by (C) and those in wide-screen processes by (WS). Distribution began in July.

It Happened In Rome (1543) (C) (WS): Comedy; June Laverick, Isabelle Corey.

The Snow Queen (1544) (C): Fairy tale; Narrated by Art Linkletter.

The Strawberry Blond (1545): Drama; James Cagney, Olivia De Havilland.

Man On a String (1546): Drama; Ernest Borgnine, Kerwin Mathews.

The Third Voice (1547) (WS): Melodrama; Julie London, Laraine Day.

The Threat (1548): Drama; Robert Knapp, Linda Lawson.

Whiplash (1549): Drama; Dane Clarke, Alexis Smith.

Time Machine (1550) (C): Science-Fiction; Rod Taylor, Yvette Mimieux.

The Big Fisherman (1551) (C) (WS): Biblical Drama; Howard Keel, Susan Kohner.

All the Fine Young Cannibals (1552) (C) (WS): Drama; Robert Wagner, Natalie Wood.

Wake Me When It's Over (1553) (C) (WS): Comedy; Ernie Kovacs, Margo Moore.

San Antonio (1554): Western; Errol Flynn, Alexis Smith.

Key Witness (1555) (WS): Drama; Jeffrey Hunter, Pat Crowley.

Once More With Feeling (1556) (C): Comedy; Yul Brynner, Kay Kendall.

Knute Rockne (1557): Drama; Pat O'Brien, Gale Page.

Because They're Young (1558): Drama; Dick Clark, Tuesday Weld.

BOOKS

THESE WILL HELP YOU COME TO THE AID OF YOUR PARTY

YOU HAVE ONLY ONE VOTE in the upcoming Presidential elections, so it's up to you to use it as wisely as possible. To help you, the Library Branch has selected a list of books which will give you a brief rundown on the major parties, the office of the President, scads of facts and figures, and what you can do as a citizen. If you like this taste of politics, you'll find many other books in your ship or station library concerned with other aspects of politics and government.

Two titles, *Readings for Republicans* and *Readings for Democrats*, edited by Franklin L. Burdette and Edward Reed respectively, will give you a pretty good idea of what each of our major parties considers important. In *Republicans*, the philosophy of the Republican Party is set forth in the words of its leaders. From Lincoln to Eisenhower, here are the views of the Party leadership on liberty and human dignity, on economy and the public interest, foreign policy, and the role and record of the Party.

The treatment for *Democrats* is similar but, as might be expected, the subject matter is considerably different. Here is a portrait of the Democratic Party from its beginning under Thomas Jefferson to its present status.

The two *Readings* describe our political parties as they would like to be. *Jumbos and Jackasses*, by Edwin Palmer Hoyt, Jr., is a little more realistic. He adopts a highly irreverent approach to the presidential campaigns since Republicans and Democrats first squared away at one another in 1860 when Lincoln and Stephen Douglas were nominated. From that point, he records dull cam-

paigns and vicious ones, triumphs of principle and of avarice, violent conventions in which men not only threatened to punch their opponents in the nose, but did so. You may not learn about the major issues of today, but you will enjoy it.

Our Presidents, by James Morgan, is a collection of biographies of the presidents up to the present. The first edition of this book appeared some 35 years ago but it has been in such demand that it has been constantly revised to keep it up to date. In addition to the biographical material, it includes photographs of the presidents, their wives, homes and families, and a tabulated history.

There's little excuse for not knowing what the office of the president is all about. *The American Presidency*, by Clinton Rossiter, brought up to date and expanded, describes just that. In addition to revision throughout the book, Rossiter has added new chapters on the problem of presidential succession, and on the methods of nominating and electing presidents. He offers judgment of the qualifications — personal, political, religious — necessary for the successful presidential candidate today.

Candidates 1960, edited by Eric Sevareid, is a guide to the personalities, issues and significance of the next presidential election. In his discussion of the ideal candidate, Sevareid analyzes the standards by which candidates are chosen and the way campaigns are run in this age of mass persuasion. Defining the criteria for good candidates — and good presidents — he then comments on the leading political figures.

1600 Pennsylvania Avenue, by Walter Johnson, is a little specialized. It discusses the presidency since 1929 and the men who lived at that address since that time. It covers the period of the depression, the New Deal, the development of modern U.S. foreign policy, the dropping of the atom bomb, the limited war in Korea, the creation of space satellites and other events — all in terms of the presidency. Johnson also discusses at some length the personalities of the four men who have occupied the White House since 1929.

If you haven't found what you're looking for in the list of books de-

scribed above, you're sure to do so in either *The Voter's Presidential Handbook*, by John A. Wells, or *Facts About the Presidents*, by Joseph N. Kane. Neither could be recommended for light summer reading, but they do have facts. *Facts* devotes a chapter to each president, in which his family is described, followed by data on elections, congressional sessions, cabinet appointments and the vice president, as well as highlights of the Presidential life and administration. This is followed by material in comparative form, with collective data and statistics on the presidents as individuals and on the office of the president. (For example, one section gives the titles of all the books written by each of the presidents — Washington, none; Theodore Roosevelt, 37.) *Handbook* takes a somewhat different approach. Here, the subject is broken down into three categories: the office, the men, and the conventions.

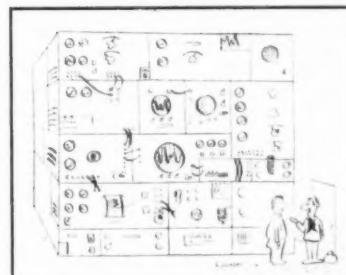
We've saved for the bottom of the page one book which we know will leave you refreshed and invigorated — *White House Fever*, by Robert Bendiner. With an easy-going, tongue-in-cheek approach, he covers much the same area as his fellow toilers in the political garden, but he comes up with different fruits. He notes, for example, that a party platform is a document which usually condemns all manner of sinfulness on the part of the opposition, wholeheartedly favors virtue in all its many forms and more especially that variety practiced by the party writing the platform. With a light, sure touch, heavily larded with common sense, he tells who can be elected and why. He discusses the virus of ambition that afflicts all candidates (governors contract the disease automatically) and for which the White House is the only sure cure.

All-Navy Cartoon Contest
D. F. Joachim, JO3, USN



"No thank you, sir—but I could use some suntan oil!"

All-Navy Cartoon Contest
F. E. Cooksey, RMC(SI), USN



"I'm being transferred now, so briefly,
here's how it works."

DECORATIONS & CITATIONS

DISTINGUISHED SERVICE MEDAL

"For exceptionally meritorious service to the Government of the United States in a duty of great responsibility . . ."

★ CLEXTON, Edward W., VADM, usn, for exceptionally meritorious service to the Government of the United States in a duty of great responsibility as Chief of Naval Material from 1 Feb 1956 to 30 Jun 1960. Exercising sound professional judgment and dynamic leadership in administering the material program of the United States Navy, VADM Clextion has rendered distinguished service to the United States, adding significantly to our national defense posture. He has fostered the highest degree of cooperation with private industry, and has greatly improved the material effectiveness of the Navy in the areas of policy coordination of procurement, production, inspection, and supply management. He skillfully directed the planning and implementation of a consolidation of the Bureaus of Aeronautics and Ordnance into the Bureau of Naval Weapons within a remarkably short period of eight months.

★ WILSON, Ralph E., VADM, usn, for exceptionally meritorious service to the Government of the United States in a duty of great responsibility as Deputy Chief of Naval Operations (Logistics) from December 1957 to June 1960. VADM Wilson was responsible for many changes which have contributed significantly to the ability of the Fleet and shore establishment to accomplish their respective missions more effectively. Notable examples of VADM Wilson's foresight and vigorous efforts are: A complete re-evaluation of the Reserve Fleet Policy and program which resulted in the identification and disposal of a large number of obsolete and excess ships; the Fleet Rehabilitation and Modernization program which has greatly improved the efficiency and adequacy of management of all categories of real property.

Gold Star in lieu of Second Award

★ INGERSOLL, Stuart H., VADM, usn, for exceptionally meritorious service to the Government of the United States in a duty of great responsibility while serving as President, United States Naval War College, from August 1957 to July 1960. Under his astute direction, the Naval War College has maintained a special and proper emphasis upon naval

power within the concepts of national strategy and has recognized and incorporated into the various curricula the implications of the rapid technological advances and Cold War requirements.

LEGION OF MERIT

"For exceptionally meritorious conduct in the performance of outstanding service in the Government of the United States . . ."

★ WALLACE, William E., CAPT, usn, for exceptionally meritorious conduct in the performance of outstanding services to the Government of the United States from 25 Aug 1956 to 5 Aug 1959. As Chief of the Analysis Division, Defense Atomic Support Agency, Captain Wallace provided technical guidance in the formulation of the objectives and experimental methods for full-scale nuclear tests and laboratory investigations. Through his proficient coupling of operational concepts with nuclear-effects analysis, he enabled the Defense Atomic Support Agency to develop sound programs. As senior member of the technical staff of the Special Project organized to conduct the ARGUS experiment, Captain Wallace displayed a high degree of leadership, organizational ability and scientific skill in drafting, coordinating and adapting the program to field conditions.

★ DAVIS, John A. Jr., LCDR, usn, for meritorious achievement as Commanding Officer of *uss Greenfish* (SS 351) during the winter of 1960. Under LCDR Davis' outstanding leadership, *Greenfish* completed an operation of great value to the Government of the United States.

NAVY AND MARINE CORPS MEDAL

"For heroic conduct not involving actual conflict with an enemy . . ."

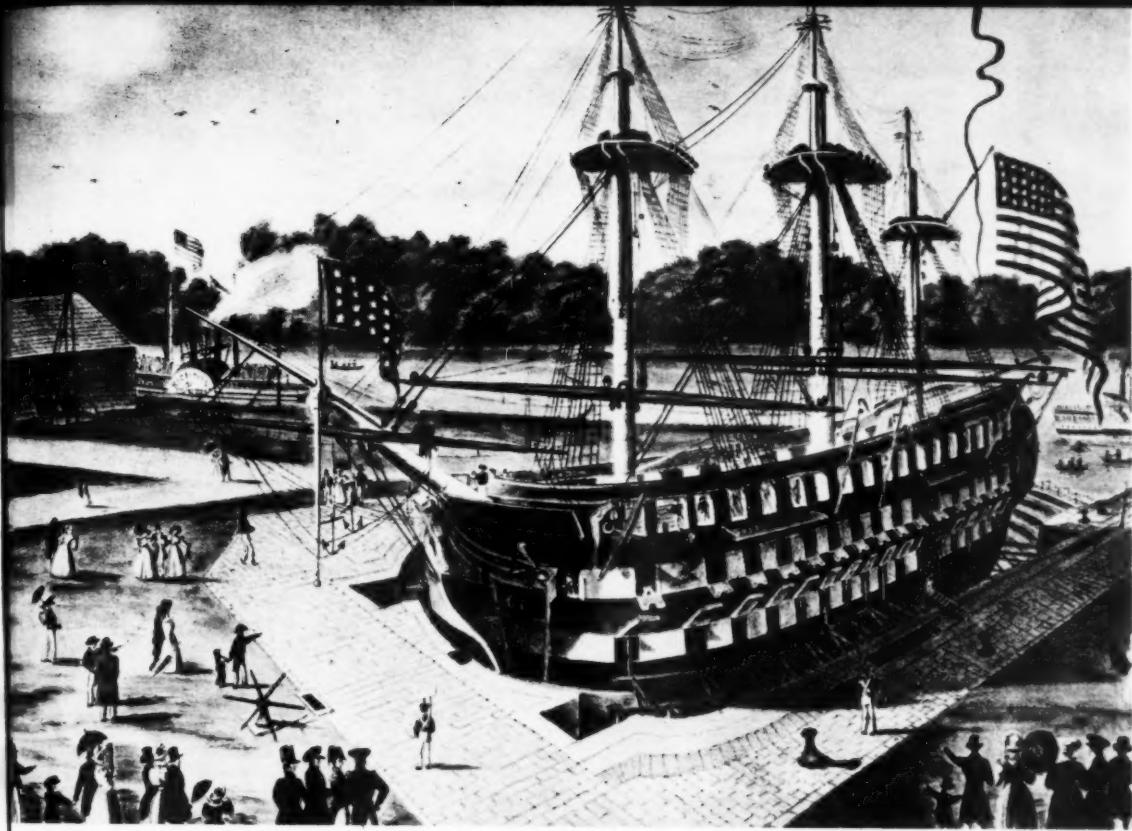
★ LAU, Gerard J., SF2, USNR, for heroic conduct during a fire in Ocean County Jail, Toms River, N.J., on 23 Aug 1959. Observing smoke pouring from the jail, and hearing the prisoners screaming for help, Lau, who was visiting nearby, immediately raced to the building and ran to the second floor where the screams of

prisoners could be heard. As he was carrying out his courageous attempt at rescue, an explosion occurred, catapulting him down a stairway and burning him severely. His heroic effort was in the highest tradition of the naval service.

★ MORRISSETTE, Joseph P., FN, usn, for heroic conduct on the early morning of 7 Jan 1960 while serving on board *uss Krishna* (ARL 38) at the United States Naval Amphibious Base, Little Creek, Norfolk. When a fellow serviceman fell from a vessel moored close to *Krishna*, Morrissette unhesitatingly dived into the frigid waters and swam to the side of the drowning man. Securing a firm hold on the victim, he managed to tow him to within 50 feet of safety where he was assisted by another man in the rescue.

★ SALTS, Jack L., HM3, usn, for heroic conduct on the morning of 15 Oct 1959 as a member of a rescue party at the Marine Corps Cold Weather Training Center, Bridgeport, Calif. When a Marine was seriously injured in a fall down an icy mountain slope during combat exercises, Salts immediately descended over difficult terrain to render medical treatment and assist in evacuation of the victim. While engaged in rendering medical assistance, he observed a large boulder rolling down the side of the mountain and heading directly toward the injured Marine. Without hesitation, Salts placed his body between his patient and the boulder, receiving the full force of the plunging rock in his chest and abdomen, thereby preventing further injury or possible death to the patient. Although sustaining painful injuries, for which he was hospitalized, Salts accompanied the rescue party throughout its five hours of difficult rescue work and continued to render medical treatment until his patient was delivered to the dispensary.

★ SCRIMIGER, John L., EMC, usn, for heroic conduct on 1 May 1959 as Chief Petty Officer in charge of *uss Capitaine* (SS 336) Rescue and Assistance Party while fighting a fire in the engine room of the Norwegian ship, *Ferngulf*, in Vancouver Harbor, British Columbia. Under Scrimiger's inspiring and courageous leadership, *Capitaine*'s fire-fighting unit boarded the stricken ship and repeatedly entered the hot, smoke-filled compartments in an effort to control and extinguish the fire, despite the threatened collapse of decks, ladders and passageways, and the ever present danger of further fire and explosion.



EVOLUTION of NAVY BUREAUS

The Navy is unique in many ways. To the average Navymen this is evident in our streamlined ships and potent weapons systems—our atomic subs, Polaris missiles, supersonic jets taking off from mobile platforms at sea.

But another part of this uniqueness is the Navy's "bureau system." The newest recruit soon becomes well acquainted with such alphabetical conglomerations as BuPers, BuMed and BuShips. They administer unto his needs. They are responsible for his orders, his pay, and in some way, for the ships that he sails in.

However, if he thinks about the bureaus at all, he envisages a group of offices somewhere back at naval

headquarters, and that's as far as he goes. What are the Bureaus? Where did they come from? How long have we had them?

Here is the story of the "Bu's" and how they grew. It was written by L. Robert Davids, formerly an editor with the Navy Civil Engineer Corps and currently a reports officer for the Atomic Energy Commission. His is an interesting and informative account of what made the Navy tick, administratively speaking.

THE FIRST MAJOR REORGANIZATION of the Navy bureaus in almost two decades was the consolidation



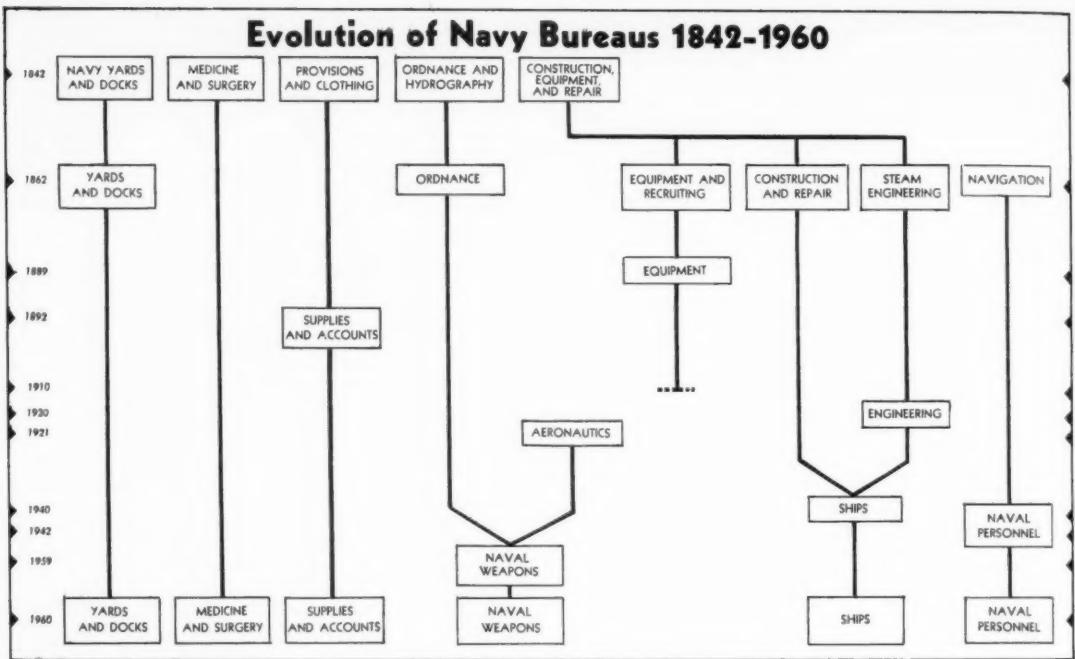
James K. Paulding, Secretary of the Navy
Guiding spirit to new bureau system



CAPT Lewis Warrington, USN
First Chief of BuDocks



William P. C. Barton, Surgeon, USN
First Chief of BuMed



last year of the Bureau of Ordnance and Bureau of Aeronautics into the new Bureau of Naval Weapons. Legislation authorizing the merger was signed by the President on 18 Aug 1959, and establishment of the new Bureau became effective on 1 September.

The consolidation reduced the number of Navy bureaus to six, the lowest number in almost a century. The other Bureaus are: Medicine and Surgery, Naval Personnel, Ships, Supplies and Accounts, and Yards and Docks.

The Bureau of Ships resulted from a similar consolidation of the old Bureau of Construction and Repair and Bureau of Engineering in 1940. However, the establishment of BuShips was foreseen for years before the change was effected; this wasn't so with BuWeps.

The consolidation of BuOrd and BuAer resulted from the recommendations made by a Navy Committee on Organization, convened in 1958 under the chairmanship of William Franke, the present Secretary of the Navy. The Committee found that changes in technology

and weapons' characteristics, particularly in the field of missiles, tended to merge the areas of development charged to the two bureaus to such a degree that organizational changes appeared necessary.

The objective of the merger was to provide an effective organization for the development and procurement of naval weapons to integrate the many phases of modern weapons systems. It reduces the problems of divided responsibility and the necessity of coordination at multiple stages and levels. The aim is a unified approach to the development of weapons systems rather than two parallel approaches which have been common under the two related bureau systems.

Congressional legislation was required for the Navy to establish the new Bureau and to provide for the abolition of the two bureaus. The merger brings together departmental personnel of approximately 4400 officers and civilians under one rear admiral as chief. RADM Paul D. Stroop, Chief of BuOrd since 1958, has been sworn in as the first head of this largest of bureaus.



RADM Charles H. Davis, USN
First head of Bureau of Navigation



**COMO Heratio Bridge, USN
Chief of Provisions and Clothing**



**RADM John Lenthal, USN
Chief of Bureau of Construction,
Equipment and Repairs**

BUÅER HAD A RELATIVELY short life. Its history goes back only 38 years to 1921, but that of BuOrd dates back to the beginning of the Bureau System in 1842.

In the various bureau reorganizations since 1842, BuOrd's only change in title and function came in 1862, when its responsibility for hydrography was shifted to another bureau. Its basic concern with naval ordnance remained through its 117-year history. (Only BuDocks and BuMed of the present bureaus retain their link with the original Navy bureau system.)

Let's trace briefly the history of the Navy bureaus to see how their titles and jobs have changed over the years. The bureau chiefs played an important role in shaping the organizations they headed. In fact, if it had not been for the vigorous defense of the bureaus by some of their chiefs, the system might have perished.

THE NAVY "BUREAU SYSTEM" was established by the Act of 31 Aug 1842, after the Navy Board of Commissioners, consisting of three senior captains, had given military direction to the Navy Department for the preceding 27 years.

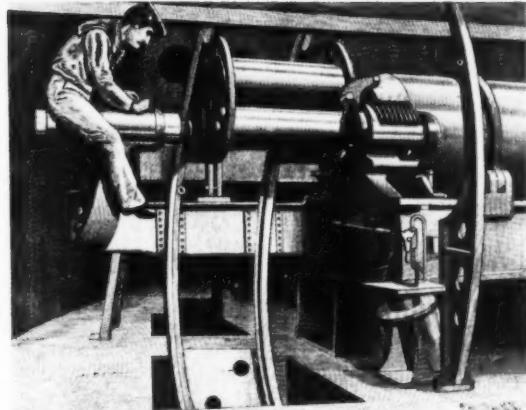
The guiding spirit behind the change in administrative system was Secretary of the Navy James K. Paulding, who had previously been Secretary of the Navy Board. He had submitted a lengthy and elaborate plan of Navy reorganization to Congress at the end of 1839.

The main reason that the three Navy Commissioners were having their general functions transferred to separate bureaus was because the Commissioners did not have individual duties and responsibilities. They acted as a board. The Secretary of the Navy wanted the officers in the Department to relieve him of the "numerous and multifarious" duties which he did not have the specialized knowledge or the time to perform.

Abel Upshur, who became Navy Secretary in 1841, urged quick Congressional approval of the plan. He recommended that the work of the Naval Shore Establishment be directed by seven bureau chiefs. However, the final Act provided for only five bureaus. They were:

- Navy Yards and Docks
- Construction, Equipment, and Repair
- Ordnance and Hydrography
- Provisions and Clothing
- Medicine and Surgery.

THE FIRST THREE BUREAUS were each allowed a staff of seven, including the chief. Provisions and Clothing had an even smaller staff—it was to operate with five



PRODUCT OF THE TIMES — 'Terror' loading car designed for the Monitor was an early product of BuOrd.

persons, and BuMed with only four. The Act also stated that the

"President of the United States, by and with the advice of the Senate, shall appoint from the captains of the naval service a chief for each of the Bureaus of Navy Yards and Docks and Ordnance and Hydrography, who shall each receive a salary of \$3,500; a chief for the Bureau of Construction, Equipment and Repair, who shall be a skillful naval constructor, and a chief of the Bureau of Provisions and Clothing, who shall each receive a salary of \$3,000; and shall appoint from the surgeons of the Navy a chief of the Bureau of Medicine and Surgery who shall receive a salary of \$2,500."

Secretary Upshur, commenting on some of the imperfections of the bill, cited the "equipment function," which should have been in a separate bureau, being lumped with Construction and Repair. "It requires a ship-carpenter to build or repair a vessel of war; it requires a naval officer to equip her." He said it was impossible to find one man as chief who was properly qualified to perform all the duties of building, repairing, and equipping a vessel of war. He also complained that "the providing of ordnance and ordnance stores has no connexion with hydrographical surveys; and yet these two subjects are entrusted to the same bureau." Upshur felt that both Equipment and Hydrography



RADM Joseph Smith, USN
Chiefs of BuDocks for 23 years



RADM Washington L. Capps, USN
Chief of Construction and Repair—1903



RADM George Melville, USN
Head of Bureau of Steam Engineering

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should have been placed in separate bureaus, making the total seven instead of five. He also complained of the lesser salary authorized for the Chief of BuMed.

NAVY YARDS AND DOCKS was the No. 1 bureau, and CAPT Lewis Warrington, who had been the last President of the Board of Commissioners, was named its chief. In those days the Commandant of each Navy Yard reported to the Chief of BuDocks. The other two Commissioners in 1842 also assumed duty as bureau chiefs. Ordnance and Hydrography was headed by CAPT William Crane and CAPT David Connor, who shortly was to lead U.S. naval forces in the Mexican War, served as Chief of Construction, Equipment and Repair.

The Act of 1842 did not specify who was to head Provisions and Clothing, and, as it turned out, this Bureau was headed by a civilian. He was the elderly Charles W. Goldsborough, who had served in the Navy Department since its creation in 1798, first as Chief Clerk and later as Secretary of the Navy Board of Commissioners.

The Bureau of Medicine and Surgery, as required by the 1842 Act, was headed from the start by a Naval Surgeon, the first one being the controversial William P. C. Barton. He remained as Chief of BuMed for only two years, when he was succeeded by his chief rival in medical circles, Thomas Harris, who served for nine years.

AS THERE WAS NO military head of the Navy in the period of 1842-1862, the bureau chiefs were then the top officers in the Navy Department. They were responsible only to the Secretary of the Navy, who "shall assign and distribute among the said bureaus such of the duties of the Navy Department as he shall judge to be expedient and proper."

BuDocks Chief Warrington, the senior naval officer in the Department for several years, actually filled in as Secretary of the Navy for a month in 1844 when Secretary Thomas W. Gilmer was killed in the gun explosion aboard *USS Princeton*. This disaster had additional effects upon the Navy Department and the bureaus. The Secretary of State was also killed, as was the Chief of Construction, Equipment, and Repair. This being an Ordnance disaster, CAPT Crane, Chief of BuOrd, ultimately incurred some responsibility for the accident. Though he had disapproved of the gun and refused to witness the trials, his suicide in the Navy Department in 1846 was attributed to brooding over the accident.

In this emergency, CAPT Charles Morris was called in to become Chief of CE&R, and Warrington shifted from BuDocks to BuOrd. These two senior officers, who had more than 100 years of active service between them, greatly stabilized the bureau system in the critical early days of its existence.

Most of the bureau chiefs in this period were senior line captains, this rank being, until the Civil War, the top rank in the Navy. These officers were generally too old to be rotated back to sea duty after a tour in the Department. One extreme example of this was CAPT Joseph Smith, who served as Chief of BuDocks from 1846 until 1869. This was a continuous tenure of 23 years, considerably longer than any other Navy bureau chief. Technically he was placed on the retired list as a rear admiral during the Civil War, but he was not to relinquish his duties as Chief until he was 79 years old.

THE FIRST MAJOR REORGANIZATION of the Navy bureaus took place during the Civil War, just 20 years after their creation. The changes were made to cope with what Navy Secretary Gideon Welles called the great changes and activities that had taken place "since the commencement of our national difficulties."

The reorganization (Act of 5 Jul 1862) saw the Bureau of Construction, Equipment, and Repair divided into three different bureaus; namely, Construction and Repair; Equipment and Recruiting; and Steam Engineering. The same Act dropped the superfluous word "Navy" from Navy Yards and Docks; and Hydrography from Ordnance and Hydrography.

Also created was a new Bureau of Navigation which took over the increasingly important functions of the Hydrographic Office as well as the Naval Observatory.

The Bureau of Navigation, first headed by RADM Charles Davis, was mainly a scientific bureau. However, just three years after it was established, this Bureau became responsible for the detailing of all officers, and 20 years later all enlisted men of the Navy. Personnel matters had been handled by the Secretary's office.

THIS MAJOR REORGANIZATION in the midst of the Civil War enlarged the Navy Department from the original five to eight bureaus. They were (1) Yards and Docks; (2) Equipment and Recruiting; (3) Navigation; (4) Ordnance; (5) Construction and Repair; (6) Steam Engineering; (7) Provisions and Clothing; and (8) Medicine and Surgery.



RADM George Converse, USN
Successively headed three bureaus



Josephus Daniels, Secretary of Navy
Reviewed Bureau system after WW I



RADM William Moffett, USN
First Chief of BuAer

The first four of these bureaus were headed by line officers and the last four by what became known as staff corps officers.

The inspiringly named Horatio Bridge, Chief of Provisions and Clothing, 1854-69, was a member of the Pay Corps and in 1868 was officially designated as Paymaster General of the Navy. John Lenthall, Chief of Construction and Repair, 1853-71, was Chief Naval Constructor and the top officer in the Construction Corps, which was officially established in 1866. William Whelan, Chief of BuMed, 1853-65, was the equivalent of a Medical Corps officer. He had the title of Surgeon, which was changed in 1869 to Surgeon General of the Navy. Benjamin Isherwood, Engineer in Chief of the Navy since 1861, became the first Chief of Steam Engineering in 1862. He was a member of the Engineer Corps, which was concerned with ships.

(The Engineer Corps should not be confused with the Civil Engineer Corps, which was established in 1867, and the members of which staffed the Bureau of Yards and Docks. However, no CEC officer became Chief of BuDocks until 1898 when Civil Engineer Mordecai Endicott was given the post. Any confusion over these two staff corps was ended in 1899 when the Engineer Corps was disestablished. Future Chiefs of the Bureau of Steam Engineering were selected from the line, which had absorbed the officers of the Engineer Corps.)

IN 1882, Navy Secretary William Chandler suggested that in view of the close association between the Navy and the Mercantile (Merchant) Marine and the fact that there was no one agency that administered the affairs of the latter organization, a Bureau of Mercantile Marine be established in the Navy Department. He repeated this suggestion in his Annual Report for 1883, but to no avail.

The passing of wooden ships and the advent of steam were making themselves felt throughout the Navy. In 1883, Chandler also recommended that the Bureau of Construction and Repair and the Bureau of Steam Engineering be united in a single Bureau of Naval Construction. He said that in the construction of steel ships, "It will be found impossible for two independent and equal bureau chiefs to design and supervise the construction of a modern vessel, the one that of the hull, and the other that of the machinery, and bring all parts together in one perfect ship without differences of opinion." He felt consolidation was the solution. Congress did not take action, however, at this time.

Chandler's successor, William Whitney, had hardly taken office in 1885 when he was recommending something entirely different—the abolition of the current bureau system. In its place, he proposed a three-division set up: (1) personnel; (2) material and construction; and (3) finance and account. The three-division organizational structure was well favored in Congress, but opponents of the bill prevented it from reaching a vote.

ALTHOUGH SECRETARY OF THE NAVY Whitney was not directly successful in his efforts at major reorganization, he nevertheless was able to focus attention on certain areas of duplication in the Department. He also utilized his own prerogatives to redistribute some of the bureau functions. He took elements of electric lighting from BuNav and BuOrd—he called this a correction of a "manifest absurdity"—and consolidated them in the



HEADQUARTERS—Old photo taken from Washington Monument shows how the 'new' Navy building looked.

Bureau of Equipment and Recruiting. He also took steps to place all personnel matters under the Bureau of Navigation and to remove the technical functions therefrom. In this regard, he had personnel recruiting responsibility transferred there from the Bureau of Equipment and Recruiting. Consequently, the name of this latter Bureau was officially changed in July 1889 to simply the Bureau of Equipment. It was then headed, incidentally, by CAPT George Dewey.

Whitney also stated in 1889 that the Hydrographic Office had no connection with the Bureau of Navigation and should be removed. This transfer was finally made to the Bureau of Equipment on 4 May 1898, but the change in function was not reflected in the latter Bureau's title.

The major accomplishment of the reorganization-minded Secretary Whitney resulted from his concentrated effort to get Navy purchasing and accounting centralized in the Bureau of Provisions and Clothing. This was a gradual process which was not completed in his four-year term as Secretary, but before he left office in 1889, Whitney made the recommendation that the name of this Bureau be changed because of its enlarged responsibility. Considering that it had gained practically all the bookkeeping work and a great part of the supply work of the Navy, Whitney said: "It might be properly called the Bureau of Supplies and Disbursements."

The actual title approved by Act of Congress in July 1892 was Bureau of Supplies and Accounts.

Despite this change in title, the members of the Pay Corps staffing this Bureau did not become known as Supply Corps officers until 1919, shortly after the end of World War I.

DIVIDED RESPONSIBILITY in regard to shipbuilding continued to pose a problem despite the fact that General Order 433 of 2 Oct 1894 placed the responsibility for the "design, structural strength and stability of vessels" in the hands of the Bureau of Construction and Repair. Secretary John D. Long, in his report for 1899, pointed out a certain lack of harmony and conflicts in construction schedules.

"Where does the work of one Bureau end and another Bureau begin?" He recommended that since the three bureaus of Construction and Repair, Steam Engineering, and Equipment were all basically concerned with one integral work, they should be consolidated into one Bureau of Ships.

Long renewed the consolidation plea the next year. No corrective legislation was forthcoming yet, however.

With the turn of the century there was something of a

revolution in the American Navy, a change that was influenced mainly by the American victory in the war with Spain and the advent of Theodore Roosevelt to the Presidency. This was not merely an expansion of the Fleet but involved a termination of old personnel practices which affected the bureau chiefs.

From the Civil War to the Spanish-American War, bureau chiefs had served in the various ranks of captain, commodore (which became a fixed rank in 1862), and rear admiral, which rank was also established in 1862. However, by the Act of 3 Mar 1899, which also eliminated the Engineer Corps, the rank of commodore was also abolished on the active list. All bureau chiefs serving in that rank were upped to rear admiral, which became the established rank for all officers while heading a bureau.

WHEN FORMER Assistant Secretary of the Navy Theodore Roosevelt became President in 1901, he instituted a youth movement that resulted in some of the youngest rear admirals the U.S. Navy ever had.

Himself the youngest man to occupy the White House, President Roosevelt named Washington Lee Capps, 39, Chief of Construction and Repair in 1903. In 1907 he selected 36-year-old Harry Rousseau as Chief of BuDocks; and shortly before leaving office in 1909 he named the 38-year-old H. I. Cone as Chief of Steam Engineering.

BuDocks Chief Rousseau, who was just a lieutenant when selected, became the youngest rear admiral in U.S. naval history.

Few Presidents took the personal interest in the Navy that Teddy Roosevelt did. By sometimes going far down the list of line and staff corps officers to select a particularly qualified officer as bureau chief, he breached the traditional reliance on seniority and established a personal selection policy which was copied to a certain extent in later administrations.

T. R.'s personal interest in the Navy could possibly be reflected in the fact that he had six different Navy Secretaries in his seven-and-one-half-year tenure in the White House. Practically all the men filling that Cabinet post made some recommendation for bureau reorganization. Some of these recommendations were well founded but others were not well thought out and contradicted reorganization plans proposed in preceding years. As each Secretary served only a short time, it was difficult to work out a solution to the administrative problems then existing in the Department.

IN THE LAST DAYS of Teddy's second term (12 Jan 1909), the current Secretary of the Navy (Truman Newberry) wrote to the President a proposal which called for the consolidation of the Bureaus of Construction and Repair and Steam Engineering and abolition of the Bureaus of Equipment and Yards and Docks and the assignment of their duties to some of the other bureaus.

Regarding the work of BuDocks, Newberry proposed that Naval Constructors should oversee civil engineering. RADM Richard Hollyday, Chief of BuDocks, strongly protested the proposal. A decision on this rather broad proposal was not made while Roosevelt was in office.

The Navy Secretary in the Taft Administration (George von L. Meyer) appointed three boards during

1909 to consider reorganization of the Department. He finally followed the recommendation that BuDocks be continued and that it be placed in charge of all public works and public utilities of the Naval Shore Establishment. This meant taking responsibility from BuNav regarding the building of training stations; from BuMed regarding hospitals; and BuOrd regarding magazines. Yards and Docks, therefore, came out of this precarious situation in a greatly enhanced position.

On the other hand, the proposal to abolish the Bureau of Equipment was carried out in June 1910 when Congress authorized its suspension. The duties of this Bureau were distributed among the other bureaus: For example, the responsibility for coal and its transportation was assigned to BuSandA; electric generators and such accessories to Steam Engineering; galleys, rope and canvas-making to C&R; and the Hydrographic Office was once again placed under the jurisdiction of BuNav. Responsibility for the Hydrographic Office was later assumed by the Chief of Naval Operations. (This office was first established in 1915.)

The abolition of the Bureau of Equipment reduced the number of bureaus to seven after they had been at maximum strength of eight for almost half a century. It was not expected that the number would be reduced further, for the distribution of equipment functions had increased the responsibilities of Steam Engineering and Construction and Repair and the agitation for consolidation of these two Bureaus temporarily subsided. In fact, over-all criticism of the bureau system was considerably reduced.

AFTER WORLD WAR I, Secretary Josephus Daniels reviewed the work of the bureaus during the conflict and said that they had responded well to the emergency situation.

He defended the bureaus against criticism that the system would not stand up under the mobilization requirements of the war period.

He pointed out that the bureaus had survived 78 years of changing conditions—the best indication that the system was sound. Many felt that a major contributing factor in the "survival" of the bureau system in this period was the continuous direction of the Department by Daniels and Assistant Secretary Franklin Roosevelt for the last eight of those 78 years. No previous Secretary (except Welles) or Assistant Secretary had served so long.

The only change in the bureaus that had taken place in Daniels' eight years in office was contained in the Naval Appropriations Act of 4 Jun 1920. As a result of the advent of diesel propulsion of ships, the word "Steam" was dropped from the Steam Engineering Bureau and it became simply the Bureau of Engineering.

Aviation had become a major combat factor in WW I. One change which Daniels advocated was the establishment of a new bureau to administer the growing aviation program. This change did not take place, however, while he was in office.

CONGRESS HAD PLACED the aviation appropriation act under the Bureau of Navigation in 1911. Later the Chief of Naval Operations became directly responsible for the program. The Bureau of Construction and Repair had responsibility for design and construction of the airships, and most of the other bureaus also had some aircraft functions.

These functions were transferred to the newly author-

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ized Bureau of Aeronautics, which was established by Act of Congress on 26 Jul 1921.

For the most part this Bureau was staffed by line officers who were specialists in aeronautical engineering. RADM William A. Moffett, USN, a pioneer in naval aviation, became the first chief. He continued to serve for almost 12 years—until his death in a dirigible accident in April 1933. He was succeeded by RADM Ernest J. King, USN, then a relative newcomer in naval aviation.

NO SIGNIFICANT CHANGE in the bureau system took place until the threat of World War II became more and more ominous. It was in the late 1930s that the old proposal of consolidating the two shipbuilding Bureaus—Construction and Repair and Engineering—was brought out of mothballs. Assistant Secretary Charles Edison was the driving force behind this latest attempt at merger. Secretary Claude Swanson appointed him Coordinator of Shipbuilding in early 1939 to expedite the necessary administrative procedures in the construction of ships. With the death of Swanson, Edison became Acting Secretary. He necessarily found the volume of work as SecNav and collateral duties too heavy to handle and in September 1939, just after the start of war in Europe, he named RADM Samuel Robinson, who was serving his second four-year term as Chief of Engineering, the new Coordinator of Shipbuilding.

There were obvious benefits from this system and the Navy Department took the next step of requesting Congressional authorization to merge Construction and Repair and Engineering into a new Bureau of Ships.

On 20 Jun 1940, Congress authorized the merger and the Bureau of Ships was officially established. Thus, Construction and Repair and Engineering were returned to the one-bureau status they held prior to 1862. RADM Robinson became the first Chief of BuShips.

This same Reorganization Act also wrote an end to the Construction Corps. At the urging of RADM Nimitz, Chief of BuNav, who maintained that greater efficiency of personnel would result, and the acquiescence of the last Chief Constructor, RADM Alexander Van Keuren, the officers of this Corps were amalgamated into the line.

ANOTHER LONG OVERDUE CHANGE took place in May 1942 when the name of the Bureau of Navigation was changed to the Bureau of Naval Personnel. As pointed out earlier, this Bureau had very little to do with Navigation since shortly after its creation in 1862 and this fact was acknowledged by all concerned. As far back as 1913 when one of the Bureaus administrators was assigned to address the postgraduate department of the Naval Academy on the duties and functions of the Bureau of Navigation, he made it clear from the outset that the Bureau of Navigation for many years "has had almost nothing to do with Navigation. Its characteristic function is not navigation, but the supply and control of personnel."

While bureau chiefs had been serving as rear admirals since 1899, the great growth in size and importance of the Navy during World War II resulted in some upgradings. In February 1944, President Roosevelt nominated three senior Bureau Chiefs for promotion to the rank of vice admiral. They were: Ben Moreell, Chief of BuDocks and organizer of the Seabees; Ross McIntyre, Chief of BuMed and for almost a decade the



SOME TIME AGO—Members of the Bureau of Supplies and Accounts pose for the camera during World War I.

White House Physician; and Randall Jacobs, Chief of the greatly enlarged Bureau of Naval Personnel.

After World War II most of the bureau vice admiral positions were again downgraded. The Chief of BuPers, who has a dual role as Deputy Chief of Naval Operations for Personnel, retained his three-star rank. He now is the only bureau chief to hold this rank.

In 1957, 15 years after the Bureau of Navigation had achieved its long overdue name change to Bureau of Naval Personnel, the Chief of BuDocks proposed to Congress that the Bureau of Yards and Docks have its name changed to the Bureau of Civil Engineering. It was felt that Civil Engineering was a more encompassing title than Yards and Docks, which referred to only one project category of the Bureau's broadened mission. This proposed change would also give greater recognition to the Civil Engineer Corps, whose officers staffed the Bureau. The proposal seemed to be well received and, in fact, the House of Representatives passed the measure in April 1958 without opposition. However, when opposition was voiced in the Senate on the grounds that the change in name would violate the long and honorable history of the Bureau of Yard and Docks, plans to change the name of the Bureau were dropped.

This brief summary of the bureau system may seem to indicate that there have been numerous changes in the Navy Department organization in its 118 years of existence. Actually, that is not the case, although from time to time there has been agitation for change that was not in fact carried out, or carried out after a long period of time. Some changes occurred only after years in which they were championed by one source or another. For example, the first recommendation for consolidation of Construction and Repair and Steam Engineering was made in 1882; the merger was carried out in 1940. On the other hand, the authorization for the abolition of BuAer and BuOrd and the establishment of the new Bureau was achieved in an extremely short period of time.

The bureau system has continued while undergoing changes, such as the redistribution of functions, consolidation, abolition, and establishment of new bureaus. It is now one of the oldest institutions in the Navy. Secretary Josephus Daniels praised the bureaus system for its soundness in 1920 on the basis of its 78 years of existence. This statement could be reiterated without hesitation in 1960 after 118 years. —L. Robert Davids

TAFFRAIL TALK

IF THERE IS ANY MONOPOLY on good Navy cooks, it would appear at the moment that the U.S. Naval Station at Guantanamo Bay, Cuba, has it. For the second time in three years, Gitmo has been selected as the most outstanding Navy general mess ashore. NavSta Gitmo won in 1958, was nominated but failed to win in 1959, won again this year.

According to the records, it would also appear that Navymen aboard USS *Saint Paul* (CA 73) are living it up a little better than anyone else, for it was this ship which took honors with its general mess afloat. Winner for the first time, she nosed out runner-up USS *Galveston* (CLG 3). Runner-up in the ashore category was the general mess at the Navy Postgraduate School, Monterey, Calif.

Special certification was won by 33 other ship and shore general messes in their food preparation, serving, sanitation and management. More than 1100 ashore and afloat food service activities throughout the world competed in this third annual all-Navy food competition. This year, 10 (instead of the earlier six) finalists were selected to compete for top honors.

The winning and runner-up ship and shore messes will receive permanent trophy plaques by the sponsors of the Ney Memorial Awards program, the Executive Stewards and Caterers Association.

The 33 activities selected as outstanding in their respective commands are:

USS *Bluebird* (MSC 121), *Bon Homme Richard* (CVA 31), *Courtney* (DE 1021), *Embattle* (MSO 434), *General W. A. Mann* (TAP 112), *Greenfish* (SS 351), *Independence* (CVA 62), *Kawishiwi* (AO 146), *Locator* (AGR 6), *Raul Revere* (APA 248), *General G. M. Randall* (TAP 115), *Sablefish* (SS 303), *Salvager* (ARSD 3) and *Taconic* (AGC 17).

Shore facilities selected were: *Columbia River Group, Pacific Reserve Fleet*; the *ComServLant Flag Unit*; the *Florida Group, Atlantic Reserve Fleet*; *NAS Corpus Christi, Tex.*; *NAS Jacksonville, Fla.*; *NAS Miramar, Calif.*; the *U.S. Naval Communication Facility, Japan*; the *U.S. Naval Communication Station, Washington, D.C.*; the *U.S. Naval Mobile Construction Battalion No. 3*; the *U.S. Naval Receiving Station, Brooklyn*; the *U.S. Naval Retraining Command, Portsmouth, N.H.*; the *U.S. Naval Stations at Annapolis, Argentia, Kodiak, Rodman (Canal Zone)*; *Rota (Spain)*; and *Subic Bay (P.I.)*; the *U.S. Naval Training Center, Great Lakes, Ill.* and the *U.S. Naval Submarine Base, Pearl Harbor*.



We think we have found a worthy successor to Black Dog, the former unofficial CO of Lakehurst, N.J. Inu, who is attached to U.S. Naval Station, Long Beach, is a quiet, well-behaved dog who doesn't bark often but when he does, he means it.

While making his rounds along the waterfront not too long ago, John L. Snyder, BM3, slipped and fell off the pier. He hit his head on the pilings and was knocked unconscious. His plight might have gone unnoticed until it was too late if Inu hadn't seen the incident and brought rescuers on the run with his loud barking.

The All Hands Staff

The United States Navy

Guardian of our Country

The United States Navy is responsible for maintaining control of the sea and is a ready force on watch at home and overseas, capable of strong action to preserve the peace or of instant offensive action to win in war.

It is upon the maintenance of this control that our country's glorious future depends. The United States Navy exists to make it so.

We Serve with Honor

Tradition, valor and victory are the Navy's heritage from the past. To these may be added dedication, discipline and vigilance as the watchwords of the present and future. At home or on distant stations, we serve with pride, confident in the respect of our country, our shipmates, and our families. Our responsibilities sober us; our adversities strengthen us. Service to God and Country is our special privilege. We serve with honor.

The Future of the Navy

The Navy will always employ new weapons, new techniques and greater power to protect and defend the United States on the sea, under the sea, and in the air.

Now and in the future, control of the sea gives the United States her greatest advantage for the maintenance of peace and for victory in war. Mobility, surprise, dispersal and offensive power are the keystones of the new Navy. The roots of the Navy lie in a strong belief in the future, in continued dedication to our tasks, and in reflection on our heritage from the past. Never have our opportunities and our responsibilities been greater.

ALL HANDS

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• **AT RIGHT: CURIOUS CUBS—H. D. Miller, GM3, USN, satisfies curiosity of Cub Scouts from Orange, Calif., as he shows them around a gun mount during open house held by USS Rochester (CA 124) at Long Beach, Calif.**

ALL HANDS





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